Light House

A Second Life for Canada's Homes

An investigation into relocating and retrofitting existing homes as an affordable and sustainable housing strategy across seven urban centres in Canada

May 2026

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Canada

"While it is vital that we build, it's equally vital how we build."

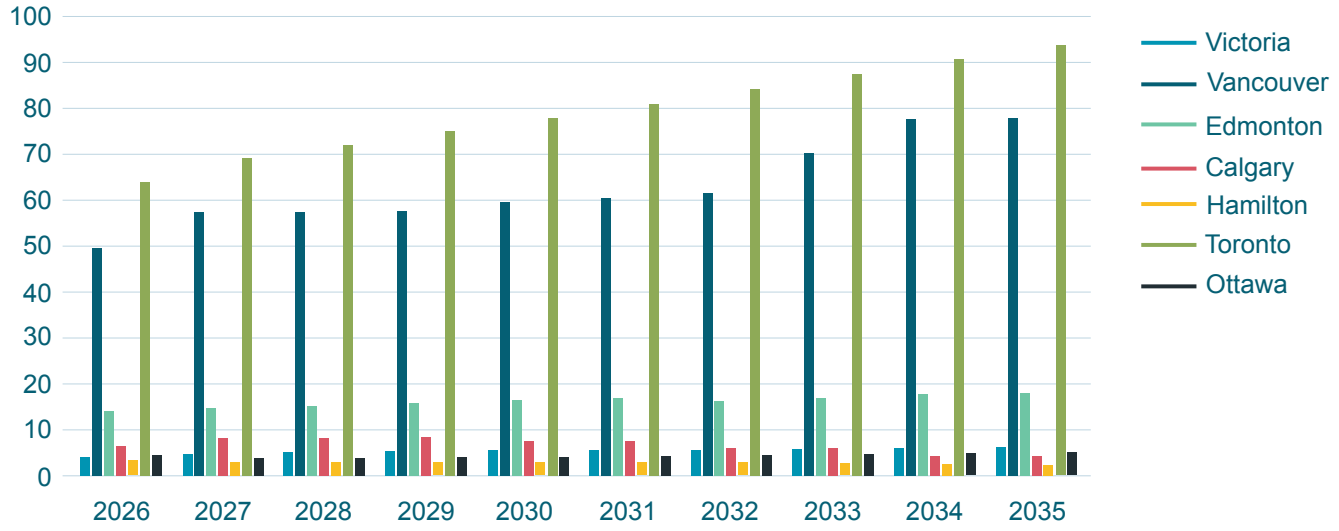
Prime Minister Mark Carney's speech on the
Day of Truth & Reconciliation, September 30, 2025.

Executive Summary

Canada is under pressure to build more housing, but how that housing is delivered matters. While we race to meet our nation's housing deficit, thousands of sound single-family homes are being simultaneously demolished in growing cities even as housing shortages deepen, construction waste piles up, and embodied carbon is lost. Following the Home Relocation and Repurposing Program (HRRP) model developed by Renewal Development, this report examines a different path: relocating and repurposing existing homes that would otherwise be demolished, then delivering them as renewed housing for communities in need. The study focuses on seven urban centres — Victoria, Vancouver, Calgary, Edmonton, Hamilton, Toronto, and Ottawa — and asks whether the HRRP model can function as a practical, affordable, and scalable housing strategy in Canada. It concludes that the opportunity is real, but conditional. The model is technically feasible in all seven cities, and in the right circumstances it can lower costs, reduce waste, preserve embodied carbon, and expand housing supply more quickly than conventional construction.

To assess the opportunity, the study combined demolition forecasting, public housing data, interviews with industry and housing representatives, technical and policy review, and comparative costing against modular and stick-frame construction. The findings show that the model is technically feasible in all seven cities, but the strength of the opportunity varies significantly by market. Success depends on more than whether a house can physically be moved. It depends on whether there is enough reliable supply, whether homes can be moved through dense urban environments without excessive delay and cost, whether projects remain financially viable after coordination costs are included, and whether recipient communities determine that relocated homes fit their housing needs, infrastructure capacity, and long-term priorities.

On supply, the opportunity is substantial. Across the seven target cities, roughly 90,000 single-family homes are forecast to be demolished over the next decade. Vancouver and Toronto stand out as the strongest and most sustained source markets. Edmonton also shows meaningful long-term potential. Calgary, Ottawa, and Victoria appear viable but more limited, while Hamilton is the weakest stand-alone market. The study uses a conservative, industry-informed assumption that about 20 per cent of homes slated for removal may be suitable for relocation after accounting for quality and moveability. However, it is important not to overstate the findings. Potential supply is not the same as deliverable supply. Route constraints, structural conditions, permitting, timing, transport complexity, and project economics all reduce the number of homes that can actually be secured, moved, and reused.



Number of homes estimated eligible for relocation annually across the seven urban centres (2026-2035)

On demand, study findings show strong regional need, especially in First Nations communities across British Columbia, Alberta, and Ontario. There is clear potential to redirect homes from urban demolition markets to communities facing serious housing shortages. However, that does not mean demand can be assumed community by community. Housing decisions depend on Nation-led assessment of fit, including housing form, cultural suitability, land availability, servicing, infrastructure capacity, financing, governance, and local planning priorities. The key finding is that there is a strong basis for further development of the model, not that every community will want or be ready to receive relocated homes.

The technical findings point in the same direction: the model works, but friction matters. Home relocation remains legally and physically possible in all seven cities, yet utility coordination, fragmented permitting, tree protection, escorts, traffic restrictions, and shrinking move corridors can all add cost and delay. The report identifies 21 structural moving companies across the seven urban centres, showing that specialized capacity exists but remains limited. Conditions also vary by city. For example, Calgary provides a detailed municipal Playbook guiding relocations, while Vancouver and Ottawa appear to offer faster permitting than other jurisdictions. At the same time, interviews with house moving companies indicate that coordination costs and administrative hurdles can make otherwise viable moves uneconomical.

The policy framework is fragmented across federal, provincial, and municipal levels and does not actively prioritize relocation over demolition. Some existing policies support the model indirectly. Federal housing, climate, and waste-diversion objectives align with preserving existing housing stock, and tax rules can benefit homeowners

who sell or donate homes for relocation. At the local level, measures such as refundable demolition deposits, variable tipping fees, and other incentives in cities like Vancouver and Victoria can improve the economics of relocation and give developers a clearer reason to consider it. At the same time, tree bylaws, oversized-load permits, utility protocols, and inconsistent treatment of relocated homes under building codes can add cost, delay, and uncertainty. Provincial policy direction toward faster housing approvals also creates resistance to any initiative seen to potentially slow redevelopment, even where such initiatives like relocation could deliver housing and environmental benefits.

Financially, the study shows that relocated homes can compare well with both modular and stick-frame construction. Based on the report's standardized assumptions, relocated homes are estimated to cost about 4.5 per cent less than modular construction and 19.8 per cent less than stick-frame construction. The report also estimates break-even for an HRRP-style operation at about 11 homes per year. Recent project experience suggests relocated homes can move from securing a house to occupancy in six to twelve months, comparable to CMHC-reported average construction timelines of 11.3 months from foundation to occupancy. That said, the economics remain highly sensitive to transport mode, distance, route complexity, permitting, utility coordination, and receiving-site conditions. Multiple-home moves, standardized retrofit scopes, and barge transport where available improve the economics significantly.

The environmental case is also compelling. Demolishing a sound home does not just remove housing stock; it destroys material value and releases embodied carbon. The report estimates that an average 1,300 square foot wood-frame bungalow contains about 49 metric tonnes of building materials and at least 23 metric tonnes of embodied carbon. Relocating and renewing these homes preserves much of that value while avoiding landfill disposal and some of the emissions associated with manufacturing and transporting new materials.

Overall, the strongest opportunities appear to be in Vancouver, Toronto, and Edmonton. Calgary, Ottawa, and Victoria remain promising but more conditional. Hamilton appears least attractive as a stand-alone market. In general, relocating and repurposing existing homes is a viable strategy to support affordable housing objectives when undertaken at scale, particularly where certain policy barriers can be addressed. Canada does not need to rely only on the linear paradigm of demolition and new construction. In many cases, one of the best housing opportunities is a home that has already been built.

Résumé

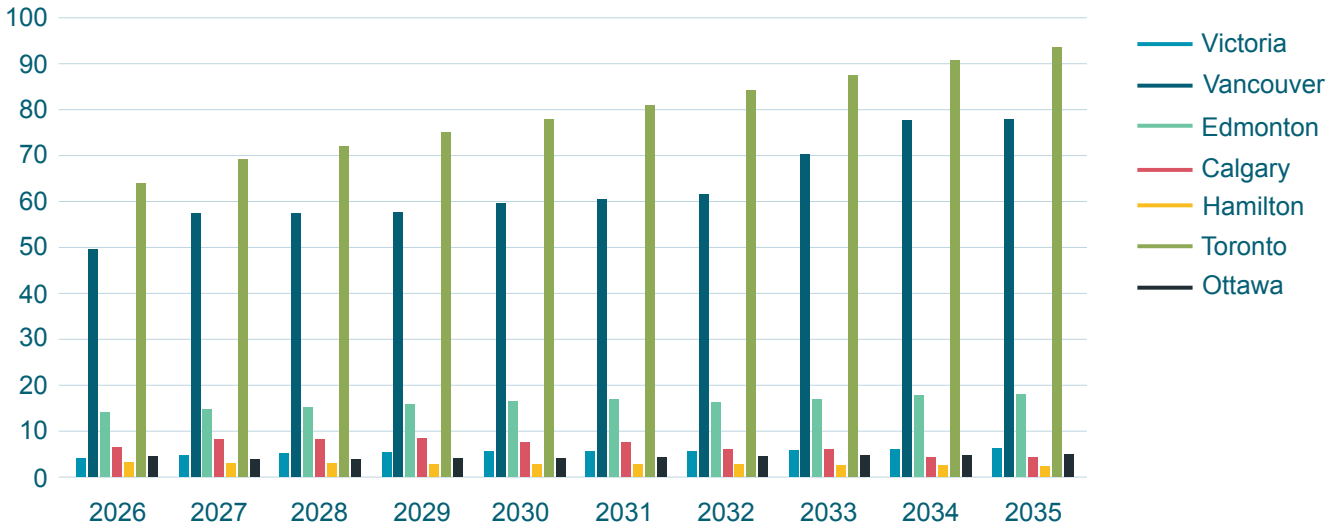
Le Canada subit une forte pression pour construire davantage de logements, mais la façon dont ils sont conçus et construits importe tout autant. Alors que le Canada tente de combler son déficit de logements, des milliers de maisons individuelles en bon état sont encore démolies dans des villes en croissance, aggravant la pénurie, les déchets de construction et les pertes de carbone intrinsèque. En s'appuyant sur le modèle du Home Relocation and Repurposing Program (HRRP) mis au point par Renewal Development, le présent rapport examine une autre possibilité: relocaliser et reconvertir des maisons existantes vouées à la démolition, puis les transformer en logements rénovés pour des communautés qui en ont besoin. L'étude porte sur sept centres urbains - Victoria, Vancouver, Calgary, Edmonton, Hamilton, Toronto et Ottawa - et cherche à déterminer si le modèle HRRP peut constituer au Canada une stratégie de logement pratique, abordable et évolutive. Elle conclut que l'opportunité est réelle, mais qu'elle n'est pas garantie. Le modèle est techniquement réalisable dans les sept villes et, avec les bonnes conditions, il peut réduire les coûts, diminuer les déchets, préserver le carbone intrinsèque et accroître plus rapidement l'offre de logements que la construction conventionnelle.

Pour évaluer cette possibilité, l'étude a combiné des prévisions de démolition, des données publiques sur le logement, des entrevues avec des représentants de l'industrie et du secteur du logement, un examen technique et stratégique, ainsi qu'une comparaison des coûts avec la construction modulaire et la construction à ossature légère. Les résultats montrent que le modèle est techniquement réalisable dans les sept villes, mais que son potentiel varie considérablement d'un marché à l'autre. Le succès ne repose pas uniquement sur la capacité à déplacer une maison. Le succès dépend de plusieurs facteurs: un approvisionnement suffisant et fiable, la capacité de déplacer des maisons en milieu urbain dense sans délais ni coûts excessifs, la viabilité financière

des projets une fois les coûts de coordination pris en compte, et l'adéquation des maisons relocalisées avec les besoins, les capacités d'infrastructure et les priorités à long terme des communautés d'accueil.

Sur le plan de l'approvisionnement, l'opportunité est réelle. Dans les sept villes étudiées, environ 90 000 maisons individuelles devraient être démolies au cours de la prochaine décennie. Vancouver et Toronto se distinguent comme les marchés les plus solides et durables, tandis qu'Edmonton présente un fort potentiel à long terme. Calgary, Ottawa et Victoria semblent viables, mais à plus petite échelle, et Hamilton reste le marché autonome le plus limité.

L'étude retient une hypothèse prudente, fondée sur l'expérience du secteur : environ 20 % des maisons vouées à la démolition pourraient être relocalisées, selon leur qualité et leur déplaçabilité. Ce chiffre doit toutefois être interprété avec prudence. Le potentiel ne se traduit pas directement en approvisionnement mobilisable. Les contraintes d'itinéraire, l'état des structures, les permis, les délais, la complexité du transport et la viabilité économique des projets limitent le nombre de maisons qu'il est réellement possible de récupérer, déplacer et réutiliser.



Nombre estimatif de maisons admissibles à la relocalisation chaque année dans les sept centres urbains (2026-2035)

Du côté de la demande, les résultats montrent un besoin important à l'échelle régionale, en particulier dans les communautés des Premières Nations en Colombie-Britannique, en Alberta et en Ontario. Il existe un réel potentiel pour rediriger des maisons issues des marchés urbains vers des communautés confrontées à de graves pénuries de logement. Cela ne signifie pas pour autant que la demande puisse être généralisée. Les décisions en matière de logement relèvent des Nations elles-mêmes. Elles reposent sur plusieurs facteurs : la forme du logement, sa pertinence culturelle, la disponibilité des terrains, les services, la capacité des infrastructures, le financement, la gouvernance et les priorités locales. En bref, les conditions sont réunies pour développer le modèle. Mais cela ne veut pas dire que chaque communauté souhaitera, ou sera en mesure, d'accueillir des maisons relocalisées.

Les constats techniques vont dans le même sens : le modèle fonctionne, mais les contraintes sont réelles. La relocalisation de maisons reste légalement et physiquement possible dans les sept villes, mais la coordination avec les services publics, la fragmentation des permis, la protection des arbres, les escortes, les restrictions de

circulation et le rétrécissement des corridors de déplacement peuvent tous entraîner des coûts et des délais supplémentaires. Le rapport recense 21 entreprises de déplacement de structures dans les sept centres urbains, ce qui montre qu'une capacité spécialisée existe, mais demeure limitée. Les conditions varient aussi d'une ville à l'autre. Par exemple, Calgary dispose d'un guide municipal détaillé pour encadrer les relocalisations, tandis que Vancouver et Ottawa semblent offrir des processus de permis plus rapides que d'autres administrations. En même temps, les entrevues avec des entreprises de déplacement de maisons indiquent que les coûts de coordination et les obstacles administratifs peuvent rendre non rentables des déplacements qui seraient autrement viables.

Le cadre stratégique est fragmenté entre les niveaux fédéral, provincial et municipal, et ne favorise pas activement la relocalisation par rapport à la démolition. Certaines politiques existantes soutiennent toutefois le modèle de façon indirecte. Les objectifs fédéraux en matière de logement, de climat et de détournement des déchets concordent avec la préservation du parc de logements existant, et les règles fiscales peuvent avantager les propriétaires qui vendent ou donnent des maisons en vue de leur relocalisation. À l'échelle locale, des mesures comme les dépôts remboursables liés à la démolition, les droits d'enfouissement variables et d'autres incitatifs, notamment à Vancouver et à Victoria, peuvent améliorer la viabilité économique de la relocalisation et inciter davantage les promoteurs à l'envisager. En parallèle, les exigences liées à la protection des arbres, les permis pour charges hors gabarit, les protocoles des services publics et l'application incohérente des codes du bâtiment génèrent des coûts, des délais et de l'incertitude. Les politiques provinciales visant à accélérer l'approbation des projets de logement créent aussi une résistance à toute initiative perçue comme pouvant ralentir le redéveloppement, même lorsque des approches comme la relocalisation pourraient offrir des bénéfices en matière de logement et d'environnement.

Sur le plan financier, l'étude montre que les maisons relocalisées sont compétitives par rapport à la construction modulaire et à la construction à ossature légère. Selon les hypothèses normalisées du rapport, les maisons relocalisées coûteraient environ 4,5 pour cent de moins que la construction modulaire et 19,8 pour cent de moins que la construction à ossature légère. Le rapport estime le seuil de rentabilité d'une opération de type HRRP à environ 11 maisons par an. Des projets récents montrent qu'une maison relocalisée peut être mise en service en six à douze mois, de l'acquisition à l'occupation. Ce délai est comparable au temps moyen de 11,3 mois entre la fondation et l'occupation, selon la SCHL. Cela dit, l'économie du modèle demeure très sensible au mode de transport, à la distance, à la complexité de l'itinéraire, aux permis, à la coordination avec les services publics et aux conditions du site de réception. Les déplacements de plusieurs maisons à la fois, les portées de rénovation standardisées et le transport par barge, lorsqu'il est possible, améliorent sensiblement l'économie du modèle.

L'argument environnemental est tout aussi solide. Démolir une maison en bon état ne fait pas que réduire le parc de logements; cela détruit aussi de la valeur matérielle et libère du carbone intrinsèque. Selon le rapport, un bungalow moyen à ossature de bois de 1 300 pieds carrés contient environ 49 tonnes de matériaux et au moins 23 tonnes de carbone intrinsèque. Relocaliser et rénover ces maisons permet d'en préserver une grande partie, tout en évitant l'enfouissement et une part des émissions liées à la fabrication et au transport de nouveaux matériaux.

Dans l'ensemble, les meilleures opportunités se trouvent à Vancouver, Toronto et Edmonton. Calgary, Ottawa et Victoria restent prometteuses, mais à plus petite échelle, tandis que Hamilton apparaît comme le marché autonome le moins attrayant. De manière générale, la relocalisation et la reconversion de maisons existantes constituent une stratégie viable pour soutenir les objectifs de logement abordable, surtout lorsqu'elles sont déployées à plus grande échelle et que certains obstacles peuvent être levés. Le Canada doit sortir du modèle linéaire de démolition et de construction neuve. Dans bien des cas, la meilleure solution est de réutiliser des maisons existantes.

1. Introduction

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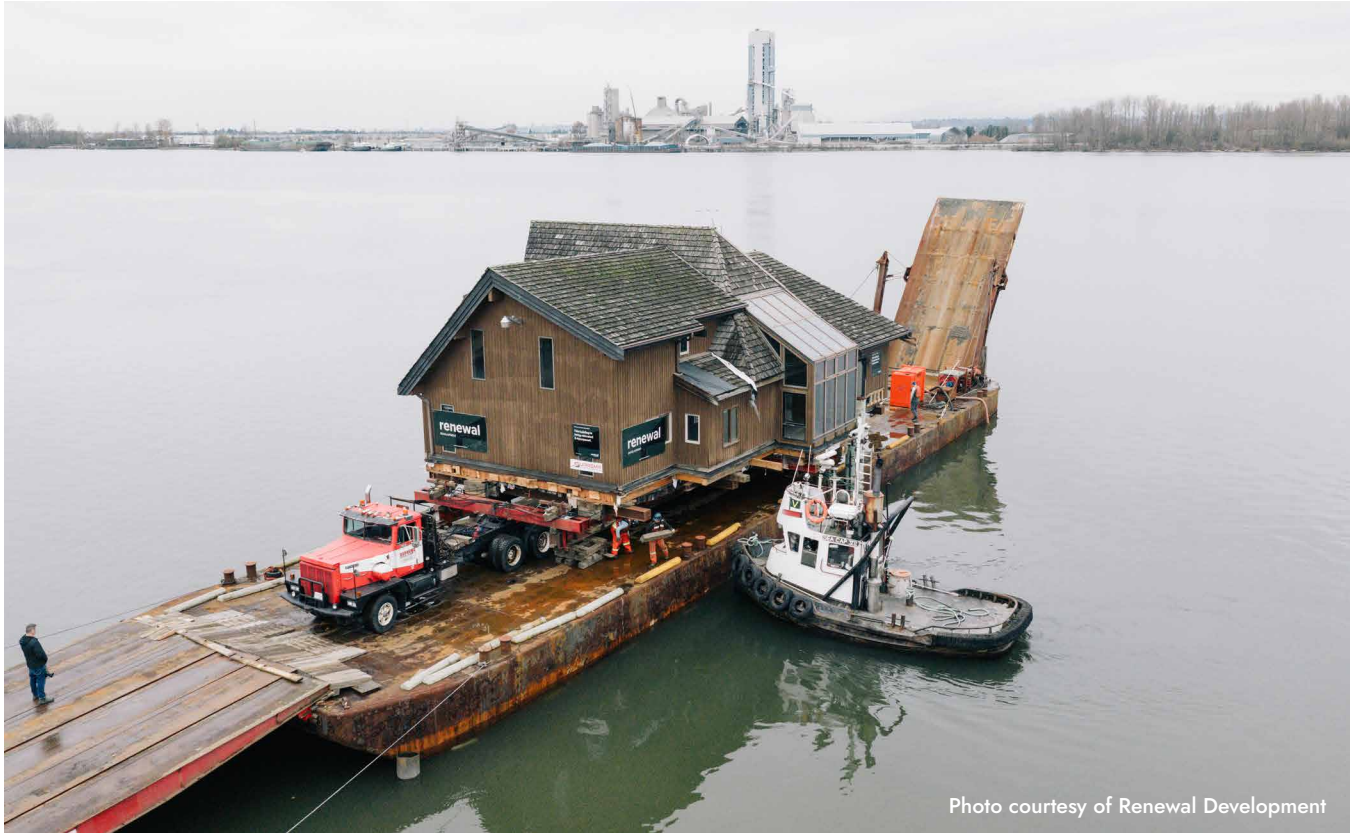


Photo courtesy of Renewal Development

Figure 1: House being transported by barge to 'Namgis Nation

According to the Canada Mortgage and Housing Corporation (CMHC), Canada is experiencing an affordable housing crisis that calls for a doubling of annual housing starts. The CMHC estimates there were 259,028 housing starts in 2025, a 5.6% increase over 2024, but well off what is needed to close the housing supply gap.[1]

At the same time, the implications of doubling construction in Canada presents significant implications for our environment where current construction activity already generates millions of tonnes of waste and carbon dioxide equivalent emissions annually.[2]

Across Canada, it is estimated that more than 9,000 single-family homes are demolished every year. In Metro Vancouver alone, an average of 3,210 single-family homes were demolished annually between 2013 and 2023.[3] This number is only expected to increase in the coming years with the push to densify urban centres.

Meeting the housing needs of Canadians and building in a sustainable manner requires rethinking the linear approach in which the construction sector operates. Rather than undermining housing objectives by demolishing existing housing, the push for affordable housing provides an opportunity for us to think differently about how we

1 CMHC. (January 16, 2026). "Housing starts up 5.6% in 2025 from 2024."

2 Canadian Council of Ministers of the Environment. (2019). *Guide for Identifying, Evaluating and Selecting Policies for Influencing Construction, Renovation and Demolition Waste Management*. See also footnote 11.

3 Metro Vancouver. (February 2025). Metro Vancouver Housing Data Book. P.78.

manage existing homes that would typically meet the fate of the wrecking ball, relocating and repurposing them to continue to provide housing in other contexts.

Industry representatives from the house moving sector estimate that as many as 20 per cent of existing homes slated for demolition are in good or excellent condition, translating into more than 1,200 homes that could have a new life providing new housing to communities across Canada.

While the physical moving of houses has been happening in all parts of North America for hundreds of years[4], more recently, a unique program has been introduced that offers a comprehensive model that strategically works to capture, relocate and retrofit homes at scale. Renewal Development (Renewal), a Vancouver-based, privately held enterprise founded in 2021, has developed a unique approach that delivers quality homes to recipient communities that are demolition-bound. The company's Home Relocation and Repurposing Program (HRRP) rescues, relocates, retrofits, and repurposes these homes—transforming them into affordable, climate-friendly housing for Indigenous and other communities in need. Guided by values of environmental stewardship, community integrity, affordability, and respectful partnership, the HRRP model delivers a circular, scalable alternative to conventional demolition and new construction.

Over the past three years, Renewal has delivered 32 units of on-reserve affordable housing to four Nations, receiving recognition from CMHC through a $2.4 million Housing Supply Challenge grant, the Vancouver Board of Trade, and international profile at the Venice Biennale. Projects completed to date with the Squamish and shíshálh Nations have solidified relationships leading to commitments for additional projects with these nations.

Experience to date evidence that the HRRP model can provide a cost-effective contribution to the nation's housing needs while also generating measurable sustainability benefits across financial, social, and environmental dimensions. Homes moved to date in BC through the HRRP have been delivered and retrofitted at 15-30 per cent less cost than equivalent modular and stick-frame construction methods[5], an especially powerful advantage in remote or coastal communities where construction logistics make construction significantly more expensive.

Socially, the HRRP model strengthens communities by redirecting quality homes into regions facing acute housing shortages. In British Columbia, more than 20 per cent of Indigenous households face core housing needs, with some First Nations reporting waitlists in the hundreds. By providing cost-competitive, occupancy-ready homes, the HRRP model offers an approach to help close housing gaps more quickly. The model also fosters collaboration among developers, municipalities, homeowners, Indigenous governments and community members, building new pathways for reconciliation and long-term partnerships.

Environmentally, relocating existing homes helps to address the waste and carbon crisis in construction. The average 2,400 square foot wood frame bungalow contains roughly 84.5 tonnes of raw material[6] and 43 tonnes of carbon dioxide equivalent CO2e.[7] Moving good quality houses that have been assessed to ensure structural integrity and the absence of hazardous materials avoids these losses, diverting significant volumes of building materials from landfill while avoiding the emissions associated with manufacturing and transporting new materials.

4 Peter Paravalos. (June 2006). *Moving a House with Preservation in Mind*. Bloomsbury Publishing.

5 Cost data for relocated homes provided by Renewal Development for homes relocated to rural, coastal communities within 500km of Metro Vancouver. Cost is based on relocating and retrofitting the building itself, and does not include site preparation, permitting costs, utility connections and other charges common to all construction methods.

6 See Metro Vancouver Demolition Waste Generation Rates Calculator.

7 Magwood, C. and Trottier, M. (2022). *Material Emissions Benchmark Report for Part 9 Homes in Vancouver*. Builders for Climate Action.

The purpose of this study is to explore factors associated with operating the HRRP model as an integrated, circular solution to Canada's housing and construction waste problems in seven major urban centres. Specifically, it assesses supply, demand, technical, policy and financial dimensions relevant to implementing and scaling the model in Victoria, Vancouver, Calgary, Edmonton, Hamilton, Toronto and Ottawa. While the practice of home relocation is not new, relocating homes to rural communities at scale has only begun to gain momentum in the past three years, through Renewal's work.

Funded by the Housing, Infrastructure and Communities Canada's Research and Knowledge Initiative, the study aims to contribute to a collection of other research initiatives exploring solutions for Canada's housing and infrastructure needs. This study details the methodology applied to undertake the research and analysis as well as documenting the findings. It also provides a high-level analysis of the opportunities, constraints, and enabling actions needed to support the scaling of this approach across all seven urban centres, rather than the specific nuances applicable to each community. Municipalities are encouraged to conduct more regional-specific assessments to ensure the economic and political viability of the HRRP model in their community.

2. Context

2. Context

Figure 2: One of the thousands of homes demolished in the Lower Mainland each year

The linear economy and its role in the built environment

Modern economic systems still operate largely as linear economies—based on a "take—make—waste" model. In this system, raw materials are extracted, turned into products, consumed, and ultimately discarded. This pattern treats homes as disposable goods, driving continuous extraction of finite resources and generating enormous waste streams.

Canada's construction sector reflects this most clearly: materials such as lumber, concrete, metals, and glass are harvested, manufactured, and assembled into buildings that are typically demolished and landfilled once their first use ends. This linear logic is deeply embedded in the built environment resulting in an estimated four million tonnes of construction, renovation and demolition materials being landfilled annually, representing millions of tonnes of wasted embodied carbon.[8] Those involved in the home relocation and demolition industries report that well-built, structurally sound homes are being destroyed in high-growth markets across Canada, often well before the end of their useful life, to make way for higher-density housing. This process generates local jobs and short-term economic activity but also eliminates valuable housing stock, wastes energy, materials, and carbon already invested in the existing building stock.

8 Canadian Council of Ministers of the Environment. (2019). *Guide for Identifying, Evaluating and Selecting Policies for Influencing Construction, Renovation and Demolition Waste Management*. P.19 (Table 1).

The demolition epidemic

Across Canadian cities, demolition activity has accelerated in tandem with urban densification. Approximately 90,000 single-family homes are forecast to be demolished in the seven target urban centres over the next decade. This equates to an average of 9,000 homes per year, or nearly 25 per day.[9]

Federal and provincial housing strategies are the drivers behind the anticipated increase in demolition activity, emphasizing rapid construction and urban intensification to address affordability challenges, while municipal zoning reforms are allowing multiplexes and secondary suites in areas that previously permitted only single-family dwellings. These measures, though aimed at increasing housing supply, have the unintended consequence of converting large numbers of existing, livable houses into waste.

The environmental cost of this looming demolition wave is significant. It is estimated that 84 per cent of the four million tonnes of construction, renovation and demolition (CRD) waste generated annually ends up in landfill and 42 per cent of it comes from demolition.[10] Looking forward to the coming decade, this means an additional 176 million tonnes of waste from demolitions alone, representing millions of tonnes of carbon dioxide equivalent (CO2e) emissions, effectively erasing decades of carbon investment.[11]

HRRP: A circular alternative

A circular economy is the alternative design concept to the linear "take—make—waste" model. In plain terms, it means keeping resources in use longer by maintaining value through reuse, repair, refurbishment, repurposing, and recovery, so fewer new materials are needed and less waste is created. In the built environment, circularity is often achieved by extending building life and salvaging and reusing building products and materials.[12]

The HRRP model offers a way to address the housing, waste and climate crises by applying circular economy principles to housing. It treats the existing home as an asset to be preserved. Instead of defaulting to demolition, the HRRP model creates a repeatable pathway to: (1) identify homes suitable for relocation, (2) remove them responsibly, (3) transport them to communities with urgent housing needs, and (4) renew and repurpose them for long-term occupancy. In this way, the HRRP model directly:

- Extends the life of existing housing assets, preserving both embodied carbon and material value;
- Reduces landfill waste by diverting entire buildings from disposal streams;
- Cuts construction emissions and costs; and

9 Forecasted demolition estimates are based on the number of historic demolitions and various market indicators. See Appendix E for detailed methodology.

10 CCME, see note 8.

11 The CCME report estimates that 40 per cent of CRD waste in Canada is wood. Studies indicate that when wood decomposes anaerobically in a landfill it generates 50% methane and 50% CO2. The Greenhouse Gas Protocol states an emission factor of 118kg CH4 per tonne of wood waste (National Council for Air and Stream Improvement. July 8, 2005. *Calculation Tools for Estimating Greenhouse Gas Emissions from Wood Product Facilities*.) Methane has a 100-year global warming potential of 25 times that of CO2, which converts to 2,950 kg CO2e per tonne of wood waste in landfill. Based on these estimates, emissions from CRD wood waste could generate as much as 5.62 million tonnes of CO2e per year in Canada. However, real-world values are likely lower due to oxidation in cover soils and/or partial degradation (not all wood carbon decomposes). In addition, the increasing incorporation of methane capture systems at landfills reduces the ultimate emissions further.

12 Teshnizi, Z., Wesley, M., Ahmad, J., Kauth, K., Komisar, Al, Zizzo, R. (2023). *Exploring Circular Strategies to Extend the Life of Existing Buildings. Retrofit Versus Demolition and New Construction*. Canadian Standards Association, Toronto, ON.

- Creates social benefit, transforming urban redevelopment waste into affordable, quality housing supply for underserved regions.

In short, the HRRP model demonstrates one component of a circular built environment: applying principles of adaptive reuse to repurpose homes for a second life. This study explores whether the HRRP model can be scaled across the seven target urban centres; examining supply, technical feasibility, financial performance, and enabling policy conditions.

The Indigenous housing crisis

The sad irony is that while urban Canada faces a demolition epidemic, many Indigenous communities are contending with a severe housing shortage resulting from long-standing underinvestment. Nationally, the Assembly of First Nations estimates that more than 100,000 new homes are needed to close the current housing gap, alongside the repair or replacement of tens of thousands more that are in poor condition.[13] Census data shows that roughly 17 per cent of Indigenous households live in dwellings requiring major repairs, compared with six per cent of non-Indigenous households, while overcrowding rates are three to four times higher on reserves.

In British Columbia, Alberta, and Ontario, Indigenous communities have a disproportionate number of homes requiring major repairs, lack adequate funding for repairs, carry higher construction costs linked to transportation, materials, and labour shortages, and endure persistent waitlists for housing. The result is a structural mismatch: thousands of sound homes are demolished in cities each year, while rural and remote Indigenous communities face a worsening housing crisis.

Figure 3: Chisasibi community, Cree Nation

13 Assembly of First Nations & Indigenous Services Canada. (March 2023). *Closing the Infrastructure Gap by 2030: A collaborative and comprehensive cost estimate identifying the infrastructure investment needs of First Nations in Canada*.

Home Relocation to First Nations To Date

Canada's history includes deeply harmful, government-imposed relocations of First Nations communities such as the relocation of the Cree Nation of Chisasibi community.[14] Between 1978 to 1980, the Island community of Fort George was relocated to the mainland due to the Hydro-Québec James Bay project resulting in 200 houses being moved across the river. In contrast, contemporary home relocation initiatives are being carried out in partnership with First Nations themselves as an expression of self-determination and housing innovation. Since 2021, Renewal Development has delivered 32 relocated homes to four First Nations at their request and in line with the needs and expectations of each Nation.

shíshálh Nation

In 2024, ten single-family homes were relocated from Port Moody to the shíshálh Nation on the Sunshine Coast, which at the time had more than 200 community members on its housing waitlist. Basement suites were added to seven of the homes and has provided 17 units of housing for Nation members upon completion.

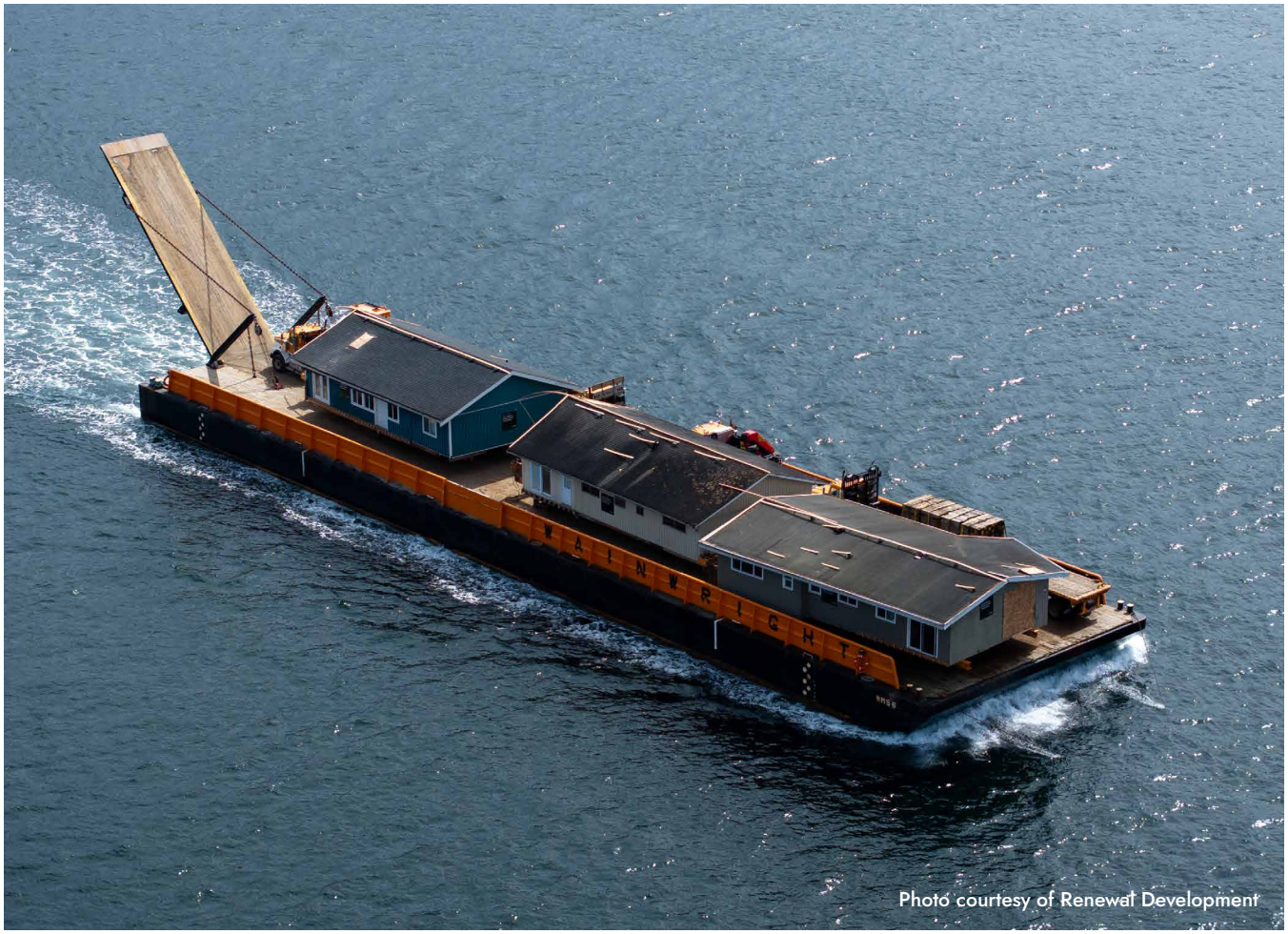


Photo courtesy of Renewal Development

Figure 4: Homes being relocated to the shíshálh Nation

14 Le lieu de mise à l'eau des embarcations de Fort George. (2009, November 26).

Sts'ailes Nation

Four near-new homes built in 2016 were relocated from Coquitlam to the Sts'ailes Nation in 2024. The homes were retrofitted and renovated as affordable rental housing for Nation families.

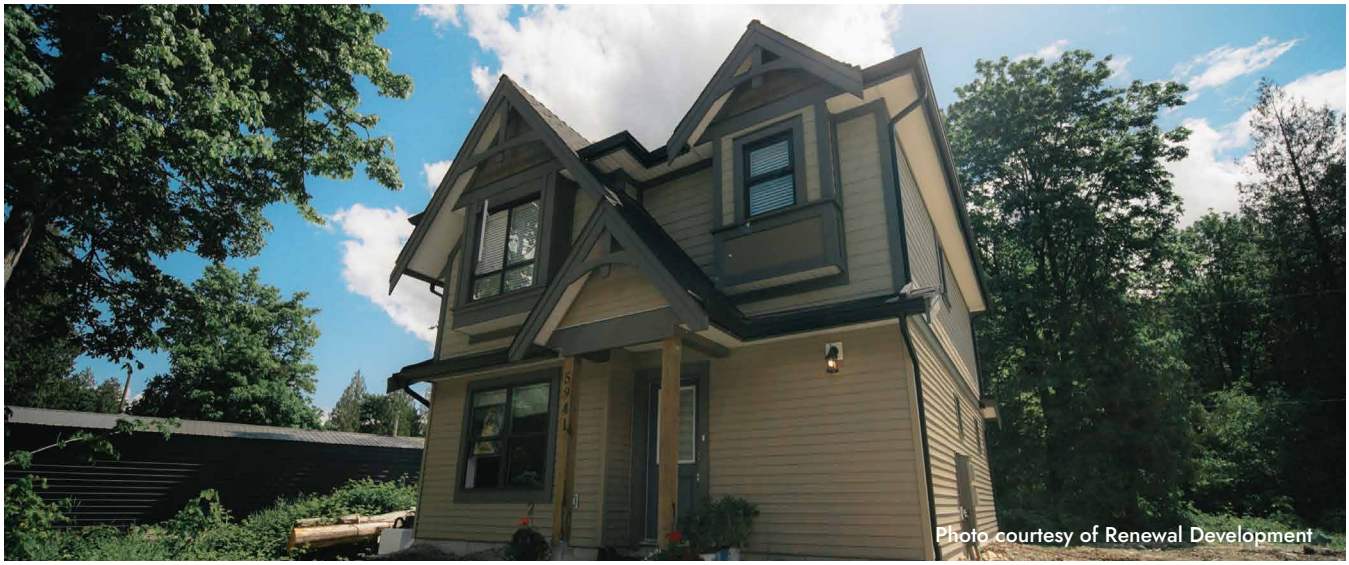


Figure 5: Relocated home on Sts'ailes Nation

'Namgis Nation

Previously a showroom, a 2,500 sq. ft home was transported by barge n 2025 from Delta to the 'Namgis Nation to be their new Lands and Infrastructure Community Office. This pilot project aimed to demonstrate the feasibility of a larger multi-home relocation project for the Nation.

Figure 6: 'Namgis Nation Community Gathering Centre

Squamish Nation

The single-family Colwood Home situated in the District of North Vancouver was relocated to the Squamish Nation (Sḵwx̱wú7mesh Úxwumixw) and upgraded to be emergency transitional housing. A basement suite was added, creating two units of housing.

Figure 7: The Colwood home being prepared for relocation

3. Methodology

3. Methodology

Photo courtesy of Renewal Development

Figure 8: shíshálh Nation relocated home modernization

This study employed a wide range of research methodologies to assess the available supply of homes, housing demand from target First Nations, and the technical, financial and policy considerations associated with introducing the HRRP model to the seven target urban centres. Each approach is detailed in this section.

Supply

To gauge the future supply of homes, the study applied a multiple linear regression model to forecast the number of homes slated for demolition over the next decade between 2026 and 2035. The analysis used demolition permit data for single-family homes from January 2018 through August 2025 for each of the target urban centres and a set of external economic and market drivers that are considered to be key determinants of redevelopment activity, and therefore demolition activity, including:

- Housing starts
- New Housing Price Index (NHPI)
- New Condominium Apartment Price Index (NCAPI)
- Building Construction Price Index (BCPI)
- Bank of Canada target rate, and
- Population growth.

Housing starts reflect development demand; NHPI, NCAPI, and BCPI capture changes in construction and housing market conditions; the target rate influences borrowing costs and redevelopment financing; and population growth signals long-term housing demand pressures. See Appendix A for details about the methodology used to forecast demolitions.

Note that the supply drivers considered do not include policy drivers, such as rezoning and transit-oriented development directives, which are common to most of the target urban centres and will likely result in a further increase in the number of existing homes removed. For example, Vancouver's Broadway Corridor Plan is expected to result in an additional thousand single-family homes being demolished over the next decade. Rezoning policies implemented in Vancouver, Toronto, and similar policy enacted in New Zealand, have resulted in varying degrees of increase in demolition activity (see discussion under "zoning" in section 8 of this report.)

Demand

Assessing the demand for relocated and refurbished homes amongst First Nations is not merely a mechanical exercise to determine the amount of housing required within Indigenous communities. Consideration must be given to the cultural preferences and readiness of each First Nation. In addition, land tenure, ownership models, adequate financing, servicing and post-occupancy asset management are some of the Nation-specific considerations that must be addressed in determining the appropriateness of this housing solution option. To fully assess demand requires consulting directly with each of the hundreds of Nations in reasonable proximity to the target urban centres, which is beyond the scope of this study. As such, this analysis does not seek to generate or infer community-specific housing requirements without direct Nation partnership. Similarly, findings do not account for individual Nations' interest in the HRRP model, alignment with community-defined priorities, financing readiness, infrastructure capacity or local planning timelines. Rather, the analysis provides a high-level regional estimate intended to complement — not replace — Nation-led housing needs assessments, which remain the appropriate mechanism for determining local priorities, program participation and implementation pathways.

The decision to rely on aggregated, publicly available data reflects not only the scope and budget parameters of this project (i.e., it was not feasible to interview representatives from every First Nation), but also a deliberate ethical commitment to Indigenous data sovereignty. Consistent with OCAP® principles (Ownership, Control, Access and Possession)[15], this study recognises that housing data is not neutral technical information, but a form of governance authority. First Nations retain the inherent right to control how their housing data is collected, interpreted, shared and applied.

Accordingly, the assessment focused on general demand estimates, relying heavily on publicly available housing data while recognizing that the success of the HRRP model is subject to the unique conditions of each community. Extensive secondary research of published First Nations housing data was conducted to estimate housing needs supplemented with primary interviews with select First Nations housing representatives. Despite the acute housing crisis facing Indigenous communities, publicly available data on their housing needs is limited and, in many instances, outdated, highlighting the need for high quality data. As noted, the ability to obtain data with respect to individual Indigenous reserve communities is also limited in accordance with OCAP® principles that stipulate that First Nations must retain full authority over their own data, and any work should be undertaken in direct collaboration with the Nations themselves. More than 30 First Nations housing representatives were contacted for interviews from Nations surrounding the urban centres of interest. Of these, eight participated in interviews providing insights into current housing strategies, housing needs and interest in the HRRP model. In addition, several Nations contacted provided valuable comments via email.

Empirical demand for housing amongst Indigenous communities within proximity to each of the seven target urban centres was calculated using a number of different datasets and assumptions. While a house can technically be relocated an infinite distance from its source, in reality, the cost of transportation is a limiting factor in determining

15 First Nations Information Governance Centre. (2026). The First Nations Principles of OCAP.

the economics of relocating a home. For that reason, it was assumed that homes could be moved up to 100km from the target urban centre; a conservate estimate based on information obtained from home movers suggesting that homes are cost-effectively moved up to 300km by road and 500km by barge.

To calculate the demand for housing within a 100km radius of each target urban centre, the study used population data and a First Nations Profiles Interactive Map provided by Indigenous Service Canada (ISC).[16] Using the First Nation Profiles Interactive Map, reserves within a 100km radius were identified.[17] Then target populations were isolated based on populations registered under the Indian Act living on Reserve or Crown land of Nations identified as being represented on reserves.[18] Target populations were then divided by the total provincial population of those registered under the Indian Act living on Reserve or Crown Land and multiplied by the total units of housing units needed across the province as determined by the Assembly of First Nations in its *Closing the Infrastructure Gap* report.[19] Bands located in zone 4 (i.e. more 350 km from the nearest service centre with year-round road access) were excluded from all reserve, band and population counts.[20]

$$\textit{First Nations Housing Unit Demand (by city)}$$

$$= \left(\frac{\textit{Population registered under the Indian Act Living on Reserve or Crown Land of Nations on Reserves within a 100km Radius of Urban Centres}}{\textit{Provincial Population Registered under the Indian Act Living on Reserve or Crown Land}} \right) \textit{X Units Needed per Province}$$

To assess the potential for single-family homes to meet the needs of First Nations, the study analyzed findings from eight publicly available First Nations housing needs assessments[21] and three additional publications documenting Indigenous housing needs of First Nations from across BC, Alberta and Ontario.[22]

Technical

From a technical perspective, the study focused on the barriers to physically moving and relocating homes as identified by home moving companies and other considerations unique to relocating homes. Issues related to site preparedness, code compliance, servicing and other aspects common to all forms of construction were not addressed because industry does not see them as a unique consideration with moving homes.

16 Indigenous Services Canada. First Nation profiles interactive map.

17 In the instances where the 100km radii for cities overlap (ie. Vancouver and Victoria and Hamilton and Toronto), the populations of nations represented within the overlapping area were counted in the target populations for both cities.

18 Indigenous Services Canada. Population Registered under the Indian Act by Gender and Residence: Dataset. Populations are calculated by Nation that correlate to reserves within the 100km radius. In some instances Nations may have additional reserves that fall outside the 100km radius but who's populations are counted in Table 3.

19 See note 13 above.

20 Zones refer to the geographic zones outlined in the Band Classification Manual. "Service centre" is the nearest community to which a First Nation can refer to gain access to government services, banks and suppliers.
Zone 1: Located within 50 km of the nearest service centre with year-round road access.
Zone 2: Located between 50 and 350 km from the nearest service centre with year-round road access.
Zone 3: Located over 350 km from the nearest service centre with year-round road access.
Zone 4: The First Nation has no year- round road access to a service centre and, as a result, experiences a higher cost of transportation.

21 See Huu-ay-aht First Nation; Halalt First Nation Comprehensive Community Development Plan Update; Nibinamik First Nation; Spune'luxutth' Tribe Land Use Plan; Squamish Housing Needs Assessment; Tla'amin Nation Housing Needs Report; Tsawwassen First Nation Housing Needs Assessment; We Wai Kai Elder's Housing Needs and Demand Study

22 See Ontario First Nations On-Reserve Housing and Related Infrastructure Needs; Interim Guide to Indigenous Housing and Development and Design; Identifying the foundations: Cultural perspectives and solutions for Indigenous Housing in Calgary.

The technical findings in this study were based on detailed research of municipal policy governing the movement of houses and oversized loads, as well as interviews with structural moving and building relocation firms operating in British Columbia, Alberta and Ontario. Twenty-one companies were identified and invited to be interviewed. Representatives from eight companies responded and agreed to be interviewed, all with decades of experience moving homes and some with experience moving homes to First Nations. Interviews involved a set of structured questions focused on real-world technical, regulatory, and logistical constraints associated with relocating homes from urban areas. To address potential bias in responses, the views expressed and information provided by industry was compared with publicly available information where available to corroborate and validate the information provided.

The technical aspects of lifting and moving houses is not publicly documented. Historically, these practices have been passed down through in-person training conducted by the moving companies themselves. In the absence of any formal published documentation on the technical aspects of relocating homes, a limited amount of additional information was obtained from company websites and media articles to supplement the information and case studies provided by interviewees.

Financial

In order to compare construction costs associated with stick-frame construction and modular construction with the HRRP model, the study developed a set of standard specifications for a house that aligned with the *Renewal Standard* developed and employed by the HRRP model (see Appendix C), allowing a degree of comparability across construction methods (see Appendix B for the list of specifications, inclusions and exclusions).

The standard specifications were provided to three general contractors and three modular construction companies servicing BC to obtain baseline costs for homes constructed using stick-frame and modular construction methods. This included the assumption that the houses were constructed or relocated to 100km from Vancouver. For relocated homes, actual costs were referenced from recent projects that met Renewal Development's *Renewal Standard* comparable to the standard specifications. Stick-frame construction values were validated against CMHC's 2025 Housing Design Catalogue construction cost summaries for British Columbia.

A stress-testing framework was applied to all construction methods to account for uncertainty at the concept stage. For stick-frame construction, the range reflected variability in labour availability, productivity, and procurement conditions across markets. For modular construction, the range captured variability in factory efficiency, transportation logistics, cranage requirements, and on-site integration costs, consistent with CMHC's finding that modular cost outcomes vary significantly depending on project conditions.[23] For the HRRP model, the range considered additional variable cost drivers such as truck versus barge transport, move permits, escorts, utility coordination, tree trimming, other municipal fees and structural adjustments.

Finally, all values were adjusted across cities using Statistics Canada's Building Construction Price Index (BCPI), which reflects contractor-priced residential construction costs inclusive of labour, materials, equipment, overhead, and profit.[24]

23 CMHC. (August 2025). Evaluation of the Rapid Housing Initiative

24 Statistics Canada. "Building construction price indexes, by type of building and division." Table 18-10-0289-01.

Policy

The policy section of the report was based on a review of relevant laws, regulations, bylaws, and other policy directives and programs pertaining to identification, removal, retrofitting and transportation of homes from the seven target urban areas as of November 2025. The study did not investigate the policies governing the homes once they were received on First Nations' lands. This was beyond the scope of the study given the hundreds of First Nations within the potential catchment areas of the seven target urban centres.

The review framework considered policies as they pertained to the various operational stages involved in the HRRP model, including home identification, removal, transport, retrofitting and delivery, to identify where current frameworks enable, discourage, or inadvertently obstruct home relocation. For each stage, relevant policy areas were identified and reviewed to determine factors impacting the relocating and retrofitting of homes. Federal policy related to taxation, housing and climate were reviewed. At the provincial level, building codes, land use, development, transportation and utility policy were canvassed for BC, Alberta and Ontario. At the regional and municipal level, focus was given to planning, zoning, permitting, solid waste management fees, heritage preservation and the movement of oversized structures. Policies were compared across jurisdictions to assess the degree of policy alignment and to identify unique aspects that could support or adversely impact the HRRP model operating at scale. The study involved limited consultation with government staff and therefore does not evaluate the way in which policy is implemented in practice from the perspective of government.

Study Limitations

While extensive research was undertaken to inform this study, several limitations qualify the findings. First, the analysis is intentionally high-level and does not assess the full community-specific conditions that would determine whether the HRRP model is appropriate in any given location. This is especially true with respect to First Nations housing demand. The scope and budget of the project did not permit direct engagement with all potentially relevant Nations, and the analysis therefore does not seek to infer community-specific housing requirements, project readiness, or implementation pathways without direct Nation partnership. Findings related to demand should accordingly be understood as indicative regional estimates intended to complement, not replace, Nation-led housing needs assessments and community-led decision-making.

A related limitation is that the demand analysis relies heavily on aggregated, publicly available data and a limited number of interviews. Publicly available First Nations housing data is often incomplete, dated, or not sufficiently granular to support precise local conclusions. In addition, consistent with OCAP principles, the study did not have the means to obtain or interpret community-level data beyond what is publicly available or voluntarily shared. As a result, the analysis cannot capture important Nation-specific considerations such as cultural preferences, household composition, land availability, infrastructure capacity, financing readiness, local planning timelines, or the suitability of single-family homes for community-defined housing objectives. For the same reason, demand estimates based on population growth, housing conditions, and overcrowding should not be interpreted as evidence that a particular Nation would want, need, or accept relocated homes.

The supply analysis is also subject to important data and modelling constraints. Forecasts of demolitions are based on historical demolition data and selected market variables, but they do not capture all of the factors that may influence future redevelopment activity. In particular, the model does not incorporate policy drivers such as rezoning and transit-oriented development directives, even though these are likely to increase removals in many urban centres. Demolition forecasts should also be treated with caution because housing markets, interest rates, construction costs, and planning policies remain volatile. In addition, demolition data is not reliable. The study

used Statistics Canada data, although data was available directly from municipalities because of the variability in methodologies and classification frameworks applied at the local level. Acknowledging the significant differences between Statistics Canada and municipal datasets, the study elected to use the former that applies a standardized methodology. For this reason, demolition figures in this report should be treated as indicative rather than definitive.

The supply analysis also does not account for some potentially relevant sources of housing, including homes from climate-related retreat or flood-prone areas, nor does it fully capture supply from surrounding suburban municipalities. For example, in 2013 a devasting flood struck several towns in Alberta, including the Town of High River, resulting in the evacuation of more than 100,000 people and five deaths. In 2016, 31 homes from High River were auctioned off and 20 of them were moved between 2017-2019, some as far as 500km.[25] In Canada, according to MyChoice Financial, 11,814 homes currently sit just one metre above sea level and are projected to flood by 2100.[26] This number likely undervalues the broader threat, especially considering localized elevation and future sea-level rise scenarios. Public Safety Canada notes that about 10% of all Canadian homes, roughly 1.5 million households, are in high-risk flood zones.[27]

Finally, the estimate of potentially relocatable homes is constrained by limited data on structural type and moveability, particularly in Ontario, where the prevalence of brick housing may reduce the practical supply available for relocation.

The technical and policy sections are similarly bounded in scope. The technical analysis focuses on barriers that are specific to moving homes and does not examine site preparation, servicing, code compliance, and other issues common to all forms of construction, even though these factors may still affect project feasibility. It also draws on a technical knowledge base that is not well documented in published sources. Likewise, the policy review considers laws, regulations, bylaws, and programs affecting the identification, removal, transport, retrofit, and delivery of homes from the seven target urban centres, but it does not investigate the policies governing homes once received on First Nations lands. Nor does it provide a comprehensive assessment of how government policy is implemented in practice. As a result, the policy analysis identifies formal enabling and constraining conditions, but cannot fully account for administrative practice, interpretation, or enforcement.

The financial analysis should also be interpreted as illustrative rather than predictive. Cost comparisons were developed using standardized assumptions to improve comparability across construction methods, including common specifications and an assumed transport distance. Permitting, site preparation, foundations, utility connections, and other costs common to all housing delivery models were excluded on the assumption that they would be broadly equivalent, but in practice these costs may vary materially across projects and communities. The analysis also does not incorporate full lifecycle costing or long-term asset management costs, which may be especially relevant when comparing retrofitted homes to new construction. More broadly, both relocation costs and delivered project costs are highly sensitive to project-specific conditions, including route complexity, transport mode, distance, labour and material pricing, and receiving-site conditions. For that reason, the financial results should be treated as scenario-based estimates only. The same caution applies to the break-even analysis, which is based on a contribution-margin approach but cannot be fully disclosed because the underlying commercial values are confidential.

Finally, several broader interpretive limitations should be kept in mind when considering the report's conclusions. The analysis shows that there is substantial unmet housing need and a meaningful potential supply of homes slated

25 McCann's Building Movers. (January 29, 2022). "2013 Flood – High River, AB".

26 Matthew Roberts. (November 28, 2024). "Canadian Communities at High Risk of Coastal Floods." MyChoice Financial.

27 Public Safety Canada. (August 2022). Adapting to Rising Flood Risk: An Analysis of Insurance Solutions for Canada.

for removal, but it does not establish that all estimated supply is practically deliverable or appropriate for recipient communities. A home identified as theoretically eligible for relocation may still prove unsuitable once factors such as cultural fit, infrastructure readiness, financing, permitting, durability, retrofit requirements, and long-term operating burdens are considered. Similarly, while the report identifies potential cost and timeline advantages associated with the HRRP model, those advantages depend on conditions aligning in practice. Overall, the findings support the HRRP model as a promising strategy worthy of further development, but they should be understood as a feasibility-level assessment rather than a definitive forecast of program performance in every jurisdiction or community context.

4. Supply: Housing Slated for Removal

4. Supply: Housing Slated for Removal

Figure 9: The Colwood Home being prepared for relocated to the Squamish Nation

The potential supply of homes for the HRRP model is fundamentally tied to the stock of houses slated for removal, most commonly through standard demolition processes. Assessing the eligibility for a home for relocation includes considering its structural merits, physical ability to move it from its place of origin, regulatory constraints, timing and cost. Based on Renewal Development's experience assessing homes for their HRRP and conversations with home movers and demolition companies in the other urban centres, it is estimated that an average of 20 per cent of single-family homes slated for demolition are eligible candidates for relocation, though this percentage will vary depending on the market.

While we do estimate the anticipated demolitions for each target urban centre in this section, forecasted demolition volumes should be considered with caution given the current volatility in housing markets, interest rates, construction costs, and planning and zoning policy. Compounding this uncertainty is the lack of consistency in demolition data as detailed in the discussion of the study's limitations in section 3 above.

Demolitions

Demolition activity across the seven target urban centres reflects distinct redevelopment dynamics, shaped by differences in market maturity, land constraints, and growth pressures (see Figure 10).

Vancouver and Toronto stand out with the highest levels of demolition activity, reflecting sustained redevelopment pressure in land-constrained, high-value housing markets. Vancouver exhibits a strong and persistent upward trajectory throughout the forecast period, indicating ongoing intensification and replacement of single-detached housing. Toronto also shows a clear upward trend, with baseline demolition activity increasing steadily over time, despite short-term volatility and occasional large redevelopment spikes.

Calgary and Edmonton display more cyclical patterns. Calgary's forecast suggests a near-term rebound in demolitions followed by moderation toward the mid-2030s, consistent with a development cycle influenced by broader economic conditions and housing starts. Edmonton, by contrast, shows a more sustained increase in demolition activity, reflecting continued population growth and steady reinvestment in established neighbourhoods.

Ottawa and Victoria occupy a middle position. Ottawa's demolition activity is projected to increase gradually, indicating rising redevelopment pressure but at a more moderate pace than in Toronto or Vancouver. Victoria, while smaller in scale, shows a steady upward trend, suggesting increasing replacement of older single-detached housing in a constrained urban setting where individual projects can significantly influence overall activity.

Hamilton exhibits the lowest and most stable demolition activity among the cities examined. The forecast shows only slight moderation over time, suggesting that demolition activity is driven largely by local project timing rather than broader market forces.

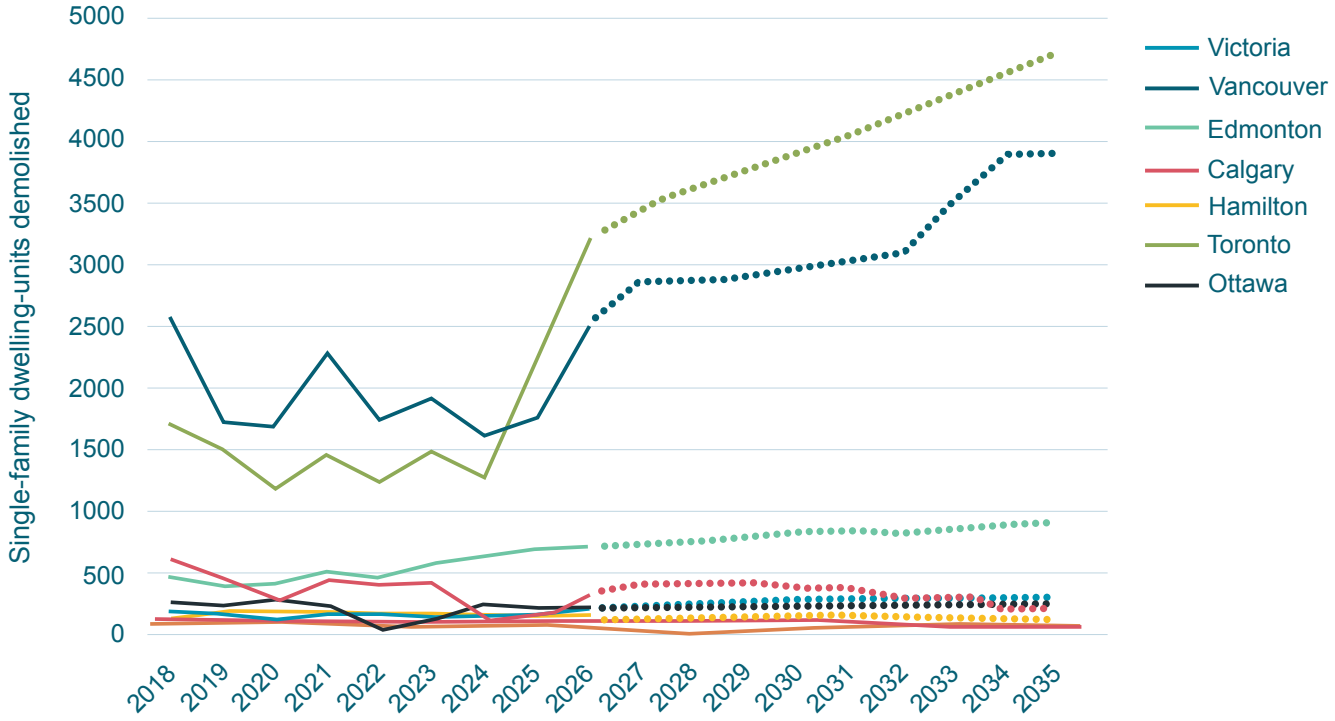


Figure 10: Annual historic/forecasted single-family homes demolished by target urban centre (2018-2035)

See Appendix D for detailed demolition trends by target urban centre.

Demolition Rates

Historic demolition rates provide further insight into the supply of homes. Demolition rates are calculated based on the number of residential demolitions reported each year as a function of total residential dwellings (see Appendix A for detailed methodology applied.) With the exception of Vancouver and Victoria, demolition rates for single-detached dwellings remain low (below 1 per cent) and constant across most municipalities indicating relatively stable redevelopment patterns (see Figure 11).[28] Vancouver shows the highest demolition rates nationally, decreasing from 6.19% in 2018 to 3.48% in 2024, reflecting redevelopment pressure and limited land availability. Victoria maintains elevated rates (2.12% – 3.01%) relative to other municipalities, indicating continued turnover of older single-detached stock. Toronto exhibits moderate rates (0.47% – 0.64%), consistent with reinvestment in established neighbourhoods and higher land values. Calgary and Edmonton continue to show low demolition rates (approximately 0.01% – 0.31%), consistent with a younger housing stock and greater availability of greenfield development. Hamilton and Ottawa remain the lowest among the selected municipalities (0.04% – 0.17%), with relatively little year-to-year fluctuation.

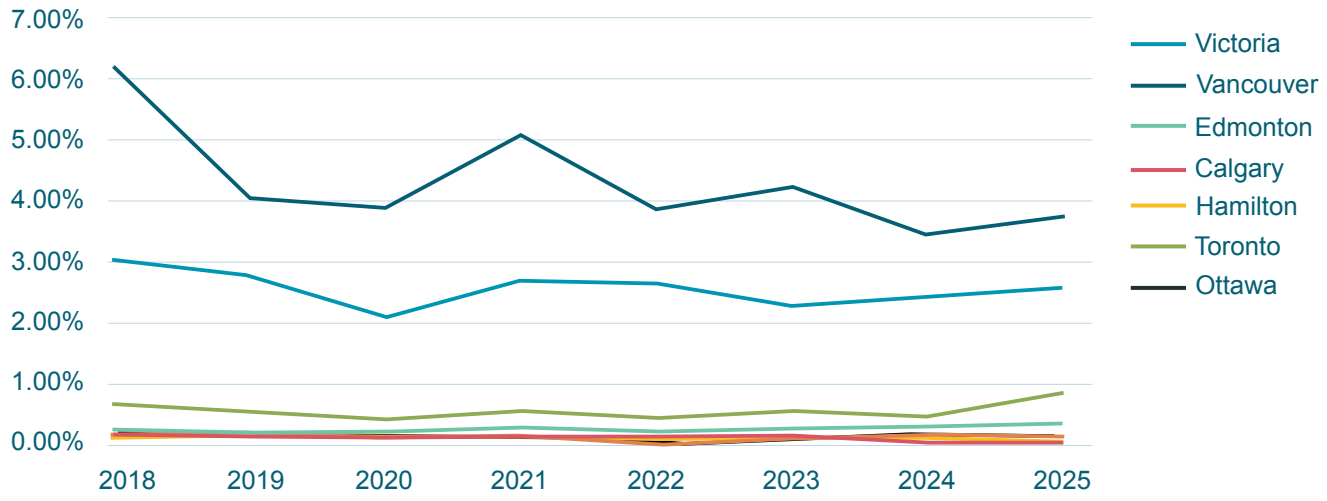


Figure 11: Historic demolition rates for target urban centres (2018-2025)

Homes Eligible for Relocation

The eligibility of homes for relocation is determined based on a number of factors, including the quality of the home, structural considerations and moveability. House moving companies interviewed in BC and Alberta report that as many as 50 per cent of all homes slated for removal are of good quality. However, when you take into consideration moveability, it is estimated that the number of eligible candidates drops to approximately 20 per cent depending on the fabric of the urban infrastructure. Several house relocation companies interviewed confirmed that many beautiful homes get destroyed because of overpasses and bridges that are impassable. For example, almost all of Port Coquitlam (BC) is bordered by overpasses that prevent any houses from being moved. Figure 12 shows the estimated number of homes in each target urban centre that could be eligible for relocation based on the more conservative 20 per cent threshold.

28 2025 demolition rates reflect extrapolated values based on January–September data.

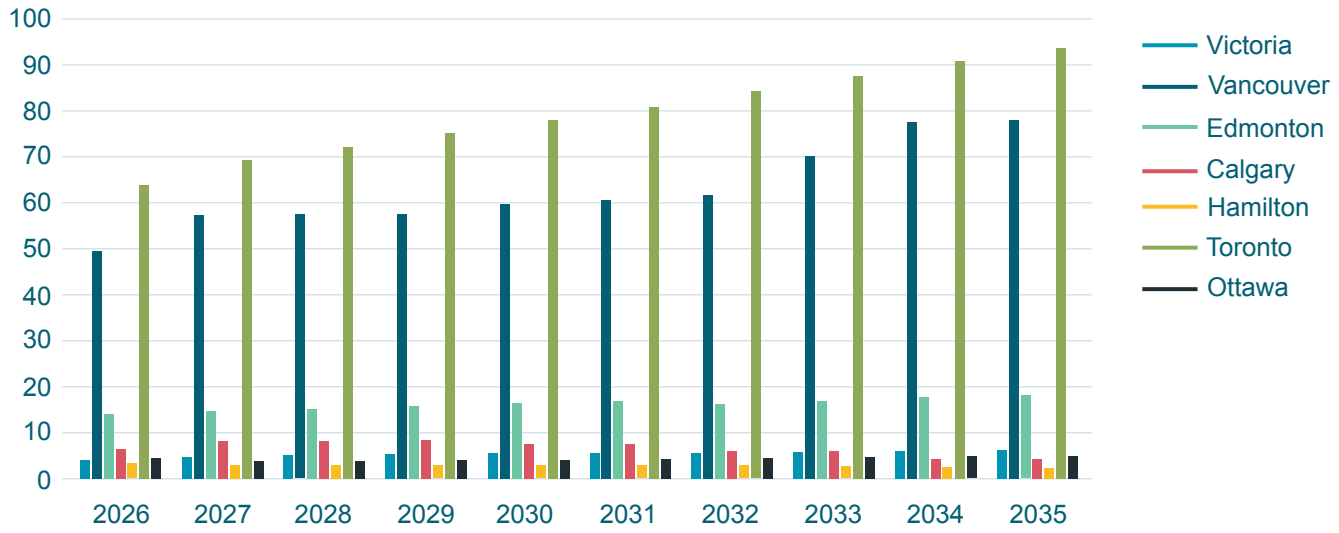


Figure 12: Number of homes estimated eligible for relocation annually (2026-2035)

Assuming that the HRRP model requires the relocation and repurposing of a minimum of 11 homes annually to breakeven (see section 7 below), Toronto, Vancouver, and Edmonton have ample supply to choose from. Calgary, Ottawa and Victoria are possibilities, but growth potential would be capped with a higher risk of running into supply issues. Initiatives in those three cities could consider supplementing the HRRP model with other related business activities (e.g., building lifts) in order to ensure the program's financial viability. The City of Hamilton on its own would be a less desirable market for an HRRP. However, this analysis does not take into consideration housing supply from surrounding suburbs which would improve the business case in each community to varying degrees depending on the age of homes in the suburbs and the level of development pressure.

Wood- vs. Brick-Framed Houses

One further consideration in evaluating the supply of homes is whether the structure is made from wood or brick. Homes with brick structures weigh more and require different equipment to move them, adding significant cost to the project and making them less appealing candidates for relocation.

Brick homes are more prevalent in Ontario, while the majority of homes in BC and Alberta are wood-framed. However, no published dataset was identified that classifies homes by structural material. Therefore, it is not possible to determine the extent to which data reported above for Ontario municipalities should be discounted.

Home Identification Mapping Software

One of the key requirements of an HRRP is the ability to identify homes slated for demolition in time to assess and rescue them. To source homes for relocation and repurposing, Renewal Development has developed proprietary software that integrates data from multiple sources to identify and assess quality homes slated for demolition using publicly available development and building permit data. Based on multiple data points derived from these sources, homes are positioned on a map and assessed based on the status of the property, proximity to a modernization facility, movability and the condition of the house. The *Home Assessment GIS Identification Mapping Software Program* also allows for move route data (road width, height, etc.) to be collected, plotted and managed. This technology allows higher-value homes to be identified and secured more efficiently from the larger pool of homes slated for demolition.

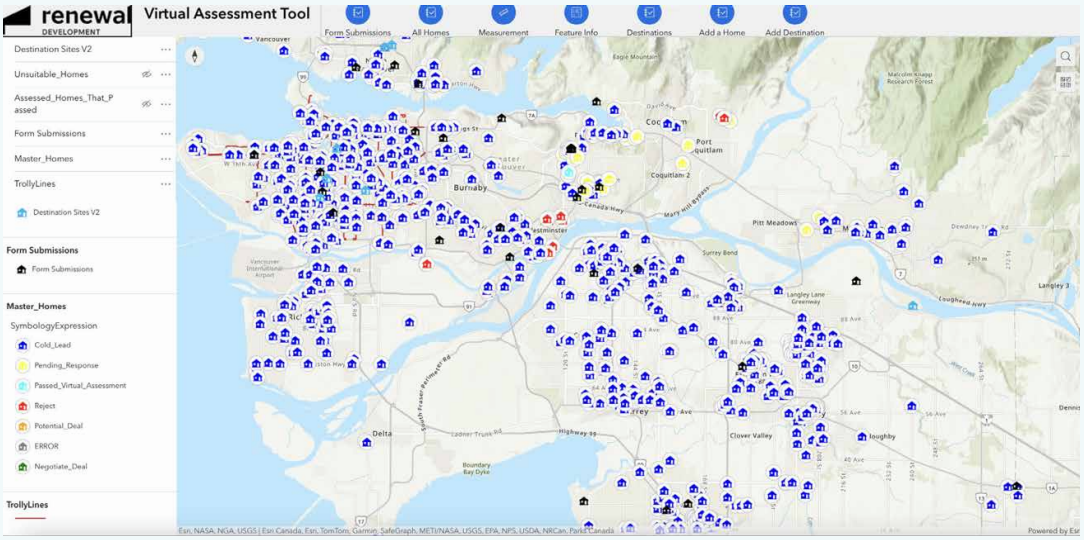


Figure 13: Snapshot of Renewal Development's home assessment GIS identification mapping program

The program is constantly updated with new permit data. An app version of the tool allows individuals in the field to manually upload information about homes that warrant further assessment. Similarly, developers and homeowners interested in alternatives to demolition for existing homes on their property can submit a request through a website portal and Renewal Development will provide a quote for the removal of the home.

Examples of Eligible Homes for Relocation

Demolition data reported above illustrates that hundreds of high-quality homes are being demolished each year across Canada. The following homes from the target urban centres in BC, Alberta and Ontario are examples of homes that align with the standard specifications used in this study and illustrate the types of dwellings that could be relocated. Each was a candidate for relocation based on its quality and moveability but was ultimately demolished or deconstructed.

Figure 14: Victorian home pre deconstruction

Figure 15: Vancouver home pre demolition

Figure 16: Calgary home pre demolition

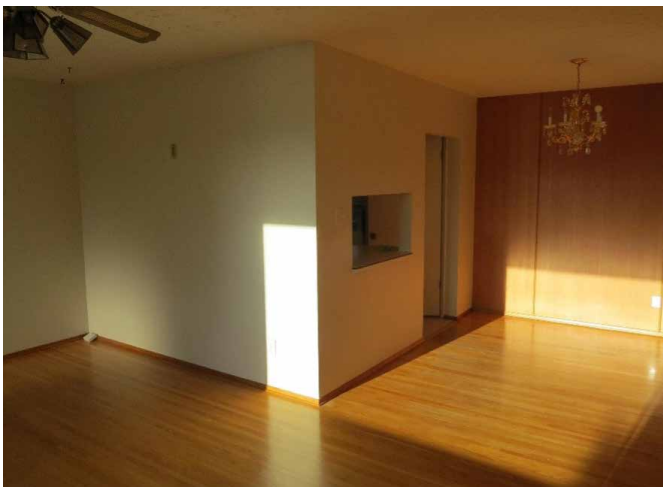


Figure 17: Edmonton home pre demolition

Figure 18: Hamilton home pre demolition

Figure 19: Toronto home pre demolition

Figure 20: Ottawa home pre demolition

5. Demand: First Nations Housing Needs

5. Demand: First Nations Housing Needs

Figure 21: Sts'ailes Nation members receiving keys to their new relocated and refurbished home

Demand for relocated homes among Indigenous communities must be considered in light of Indigenous self-determination. In a context where Indigenous authority over housing has historically been constrained, it is essential that any housing solutions considered are Indigenous led. Any discussion of housing demand in this context must therefore begin with the principle that First Nations must determine their own housing priorities, assess the suitability of relocated homes within their communities, and decide whether and how such a model aligns with their broader housing objectives.

This principle is consistent with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), which affirms the right of Indigenous peoples to self-determination and recognises their right to determine and develop housing programs through their own institutions. Specifically, Article 23 affirms that:

> "Indigenous peoples have the right to determine and develop priorities and strategies for exercising their right to development. In particular, Indigenous peoples have the right to be actively involved in developing and determining health, housing and other economic and social programmes affecting them and, as far as possible, to administer such programmes through their own process, which may differ from what is deemed 'formal business practices and process' in the business world."[29]

29 United Nations. (2007). United Nations Declaration on the Rights of Indigenous Peoples. Article 23.

In this context, relocated homes should not be understood simply as units to be supplied to communities. Rather, any model intended to serve First Nations should create space for Nations to decide whether participation is appropriate and, where desired, to play a leading role in planning, delivery, ownership, and long-term management.

At the same time, the scope of this project did not permit engagement with housing representatives from all First Nations that could potentially benefit from relocated homes. This is an important limitation. While interviews with house moving companies confirm that new and repurposed homes have been relocated to First Nations communities in BC, Alberta and Ontario, housing needs cannot be generalised across First Nations communities. Demographic conditions, governance structures, climatic realities, available infrastructure, maintenance capacity, funding constraints, housing standards, and cultural practices vary significantly from one Nation to another. As a result, it is not possible to draw broad conclusions about demand for relocated homes across all First Nations. Any meaningful assessment of interest in, or suitability of, this housing model must be undertaken on a Nation-by-Nation basis and grounded in community-led planning and lived experience.

This limitation is particularly significant given the scale and diversity of First Nations across the study area. There are hundreds of Nations in British Columbia, Alberta, and Ontario, each with distinct circumstances, priorities, and decision-making processes. A relocated home may be appropriate in one community and unsuitable in another. Demand will depend not only on housing need, but also on factors such as land availability, servicing capacity, financing, timing, local planning priorities, and whether the housing form aligns with community preferences and long-term goals.

The question of design suitability illustrates why this analysis cannot rely on unit counts alone. The HRRP model typically centres on the relocation of single-family homes. While this housing form may be appropriate in some cases, its suitability cannot be assumed across all Indigenous communities. Frameworks such as the BC Housing Guide to Indigenous Housing Development and Design offers a starting point for considerations that shape community housing needs. The guide encourages teams to consider questions like: What are the major challenges in maintaining homes?, What makes a home feel comfortable and inviting?, Which existing housing policies are effective, and which are not — and why?[30] See Appendix F for more Indigenous design considerations.

A report produced by the Calgary Aboriginal Standing Committee in response to Calgary's limited access to Indigenous specific affordable housing, highlights a number of design considerations relevant to culturally responsive Indigenous housing, including:

- Communal kitchen and dining spaces for cultural activities.
- Improved ventilation, ample cool storage space for dried and canned goods, and increased freezer space for traditional cooking practices.
- Outdoor cooking space (potable water, drying racks, smokehouses, firepits and connection to the indoor kitchen) for preparing traditional foods.
- Rooms for beading, crafting and other group activities.
- Storage spaces for outdoor equipment like hunting and fishing gear.
- Connection to nature and outdoor activities. Outdoor social spaces (Wrap around porches, backyards with no fences, playgrounds, central courtyards and gardens with communal seating areas.)

30 BC Housing. (2018). Interim Guide to Indigenous Housing Development and Design. According to BC Housing, the Resource Guide was developed based on existing secondary research and interviews with First Nations Housing Managers from across B.C.

- Intergenerational connection through accessible design.
- Adaptable housing for aging and changing communities. [31]

The Committee's report emphasized that 'all frontline participants expressed how Indigenous presence, identity and culture needed to be incorporated into housing design.' These considerations underscore that housing demand is not simply a question of the number of units required, but also whether the housing type and design are appropriate to the needs of the community.

For these reasons, the remainder of this section does not attempt to assess demand for relocated homes based on the preferences, intentions, or housing strategies of all First Nations in the three provinces. Such an assessment would require direct, Nation-led engagement well beyond the scope of this project. Instead, the analysis that follows considers "demand" only in a limited economic sense. It uses standard indicators such as projected population growth, housing need, housing conditions, and overcrowding to provide a high-level picture of where demand for additional housing may exist. Findings are supplemented by interviews and case studies from selected Nations in British Columbia, Alberta and Ontario. This approach is indicative only. It does not replace Nation-led housing needs assessments, nor should it be interpreted as evidence that any particular Nation would want, need, or accept relocated homes.

This methodological limitation reflects the parameters of the project (including scope and budget) which limited our ability to consult all Nations as well as a deliberate commitment to ensuring that Nations retain governance over their own housing data and decision-making processes. As such, the findings presented here are indicative only and should not be interpreted in isolation from Nation led housing needs assessments.

Unit Size Needs

Nation specific housing studies demonstrate that size of homes required varies significantly depending on demographic composition of the community and planning assumptions. Housing needs studies for the Tla'min Nation on BC's Sunshine Coast and the Nibinamik First Nation in Northern Ontario illustrate how housing characteristic needs in the form of household size (bedroom numbers) can vary significantly based on the numbers of residents per household. The Tla'min Nation projects that 80% of houses they need as of 2026 are 3+ bedroom homes.

Household Size	Projected Houses Needed (2026)
1 Bedroom	30
2 Bedroom	30
3+ Bedroom	258
Total	**308**

Table 1: Tla'amin Nation 2026 projected housingneeds by unit size[32]

31 Lindstrom, G., Aboriginal Standing Committee on Housing and Homelessness, & University of Calgary, Cummings School of Medicine, Dr. Katrina Milaney. (2021). Identifying the foundations: cultural perspectives and solutions for Indigenous housing in Calgary

32 qathet Regional Housing Needs Report. (2021).

The Nibinamik First Nation focuses their assessment on 2043 projections but similarly shows three bedroom units as the highest need when considering current average density and housing mix projections (Scenario 1) or where density levels are aligned with the average Canadian household size (Scenario 2). In contrast, when housing requirements are assessed based on the life stages of community members (Scenario 3), or prioritizing the needs of singles and youth (Scenario 4), one bedroom units show the greatest demand. Scenarios 3 and 4 also show a need for 5+ bedroom houses to support multigenerational households and multiple families living together.

Household Size	Projected Houses Needed (2043)			
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
1 Bedroom	11	19	46	55
2 Bedroom	36	63	47	25
3 Bedroom	36	63	34	25
4 Bedroom	33	58	30	30
5 Bedroom	3	5	10	13
6 Bedroom	0	0	8	8
Total	**119**	**208**	**175**	**156**

Table 2: Nibinamik First Nation 2043 projected housing needs by unit size[33]

These examples demonstrate that housing demand cannot be reduced to aggregate population growth figures. Instead, it must consider household composition, cultural norms, and long-term demographic transitions.

National and Provincial Needs

Across Canada there is a high need for housing in First Nations communities. The Assembly of First Nations (2021) estimates that 108,803 new units are required nationally to address overcrowding, replacement, and population growth,[34] including an estimated 23,670 units in British Columbia, 24,194 in Alberta[35], and 20,833 in Ontario by 2030 (see Figure 22).[36] Overall, these figures underscore the urgent and widespread need for expanded housing supply in First Nations communities across the country.

33 Nibinamik First Nation Housing Needs Assessment. (2018).

34 Closing the Infrastructure Gap by 2030. (2023). Assembly of First Nations.

35 Alberta's figures are based on extrapolated data due to limited available reporting.

36 Zones refer to the geographic zones with a certain distance from the nearest service centre with year-round access as outlined in the Band Classification Manual. Zone 1= 50 km, zone 2 between 50km and 350 km, and zone 3 over 350 km. Bands within zone 4 are those that have no year- round road access to a service centre and, as a result, experience higher transportation costs. Zone 4 is excluded because there is a marginal financial case for relocating single-family homes to Nations with no year round road access to a service centre.

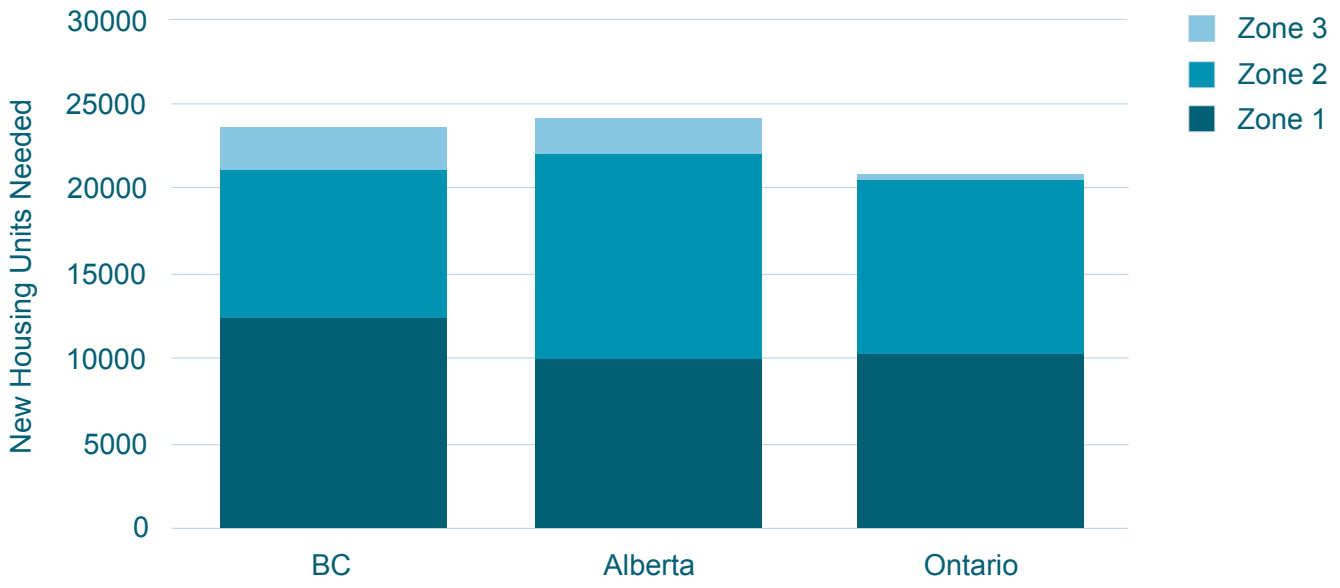


Figure 22: Total new units needed for First Nations in BC, AB and ON (2019-2030)

Local Demand/ Needs

Given the limitations of available data, this analysis of potential local supply relative to demand should be treated as indicative only. Housing demand estimates are based on 2019 data, while supply numbers are for 2026-2030 only. In addition, the supply values may also need to be discounted because they do not consider homes that would be ineligible because Nations do not deem them appropriate for their needs.

To assess potential demand for relocated homes, we considered Indigenous populations within a 100km radius of each target urban centre.[37] Based on that geographic scope, the study confirmed that there are numerous Indigenous communities in close proximity to target urban centres in this study. There are significant populations registered under the Indian Act living on reserve or crown land of Nations with reserves within a 100km radius of the seven target urban centres (see Table 3). Vancouver has the largest population registered under the Indian Act living on reserve or crown land as a percentage of the total provincial population registered under the Indian Act living on reserve or crown land (27.12%), followed by Edmonton (24.08%). Ottawa has the lowest percentage with 10.3%. Across all cities, the presence of Nations with large nearby on reserve populations demonstrates a strong and geographically concentrated pool of potential recipients.

37 Transportation is one of the major costs associated with relocating homes and, depending on the mode of transportation and road conditions, travel distance can determine the financial viability or physical ability to transport homes to First Nations communities in rural and remote areas. Several house moving companies interviewed for this study observed that, while homes can technically be moved an infinite distance subject to road conditions, relocating homes by truck more than 100km is generally considered not to be cost effective. One attractive aspect of relocating homes from coastal cities to coastal communities is the ability to transport them by barge, which is more economical.

City	Reserves of Interest (Reserves within a 100km Radius of Urban centres [38]	First Nations of Interest) First Nations on Reserves of Interest [18]	Population Registered Under the Indian Act Living on Reserve or Crown Land of First Nations of Interest (2024)[39]	Population of Interest Registered as a % of the Total Province Population Registered Under the Indian Act Living on Reserve or Crown Land[19]
Victoria	61	19	10,766	17.26%
Vancouver	149	40	16,921	27.12%
Calgary	5	5	12,122	14.49%
Edmonton	8	8	20,146	24.08%
Hamilton	3	15	13,981	13.96%
Toronto	6	17	14,238	14.21%
Ottawa	2	1	10,320	10.3%

Table 3: Number of Reserves, Nations and populations within a 100km radius of urban centres[40,41,42]

To estimate the scale of potential housing demand for First Nations located near each target urban centre, population percentages were applied to provincial housing need projections provided in Figure 22.[43] Housing needs were then compared against homes eligible for relocation from the target urban centre (Figure 12), providing a high-level indication of the relationship between housing supply and potential demand. It also gives insights into whether the quantity of homes eligible for relocation could meaningfully contribute to addressing the Indigenous housing deficit.

Across all urban centres analyzed, projected First Nations housing needs are significant, indicating a large and persistent demand for housing solutions. One housing coordinator for a First Nation outside Ottawa indicated they have 20 families waiting for homes out of a population of 500. Figure 23 shows the highest demand is proximate to Vancouver (6,420 units), Edmonton (5,825 units), and Victoria (4,085 units), however demand proximate to all cities, except Toronto, exceeds anticipated supply over the next five years. From an economic perspective, the demand for homes exceeds the supply of existing homes, especially if one acknowledges that only a small fraction of the available homes in the target urban centres could realistically be mobilized over the same timeframe given current regulatory and technical constraints (see discussion in sections 6 and 8 below). Given the housing deficit will extend beyond 2030 and demolition trends are forecasted to remain stable or increase in all target urban centres, the more relevant point of this exercise is to illustrate that relocating homes from each of the target urban centres could make a contribution to addressing housing needs of nearby Indigenous communities over the long term and a broader, sustainable housing strategy.

38 Indigenous Services Canada. First Nation profiles interactive map.

39 Indigenous Services Canada. Population Registered under the Indian Act by Gender and Residence: Dataset.

40 Reserves, Nations and population counts are duplicated across cities where 100km radii overlap i.e., Vancouver and Victoria; Hamilton and Toronto.

41 Reserves and Nations that fall under Zone 4 are excluded because there is a marginal financial case for relocating single-family homes to Nations with no year-round road access to a service centre.

42 Populations are calculated by Nation that correlate to reserves within the 100km radius. In some instances, Nations may have additional reserves that fall outside the 100km radius but who's populations included.

43 Specifically, the population registered under the Indian Act living on reserve or crown land of First Nations of interest as a percentage of the total provincial population registered under the Indian Act living on reserve or crown land.

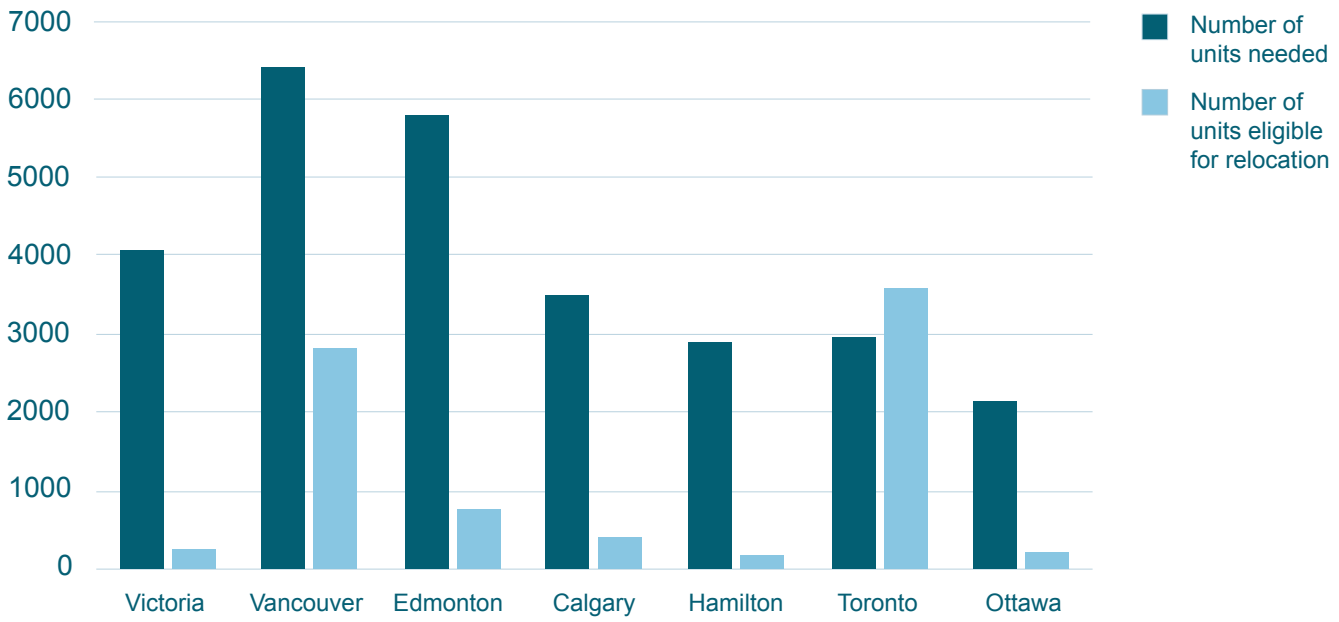


Figure 23: First Nations housing unit needs within 100km radius of urban centres v housing units eligible for relocation[44]

Key Drivers

Population Growth

Population growth is a key driver influencing housing demand in First Nations communities nationwide. The on-reserve population is projected to grow by 1.7% per year until 2030, well above the 1.0% growth rate for the rest of Canada[45], placing additional pressure on an already limited housing supply. First Nations representatives interviewed from BC, Alberta and Ontario reinforced this trend, noting an expected increase in members moving back to reserve over the next 3-5 years.

Major Repair and Replacement

Poor housing conditions on reserves, including overcrowding and homes in need of major repairs often force people to leave their communities in search of shelter and stability elsewhere.[46] The Auditor General of Canada's report on Housing in First Nation Communities shows that deteriorating housing conditions are a strong indicator of rising housing needs. According to the Auditor General's report, between 2015 and 2022, there was no meaningful improvement in overall conditions and the share of homes requiring full replacement increased from 5.6% to 6.5%.[47] Nationally, 16.4% of Indigenous people lived in dwellings needing major repairs in 2021, reflecting significant unmet demand. Data for BC, Alberta and Ontario reflect national trends: 18% of on-reserve homes in British Columbia, 20% in Alberta, and 17% in Ontario required major repairs in 2021 (see Figure 24).[48]

44 Projected unit figures are illustrative only. They are derived from limited and imperfect data and are provided solely to communicate the approximate scale and distribution of need. They should not be interpreted as precise estimates or used outside the context of this analysis.

45 See footnote 34.

46 Canadian Observatory of Homelessness. 2025. Homeless Hub – Indigenous Peoples.

47 Office of the Auditor General of Canada. (2024). Housing in First Nations Communities (Report 2).

48 Government of Canada, Statistics Canada. (2022, September 21). Housing conditions among First Nations people, Métis and Inuit in Canada from the 2021 Census.

These persistent repair backlogs underscore the urgent need for substantial solutions to repairs, replacement, and additional housing supply in First Nation communities.

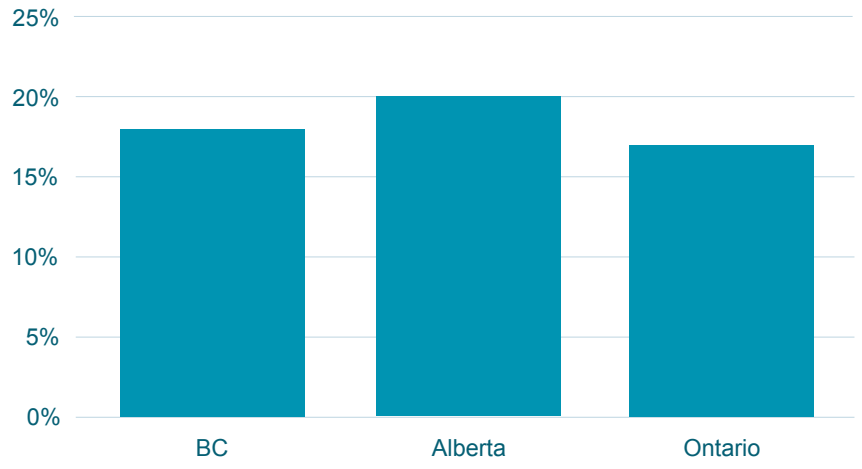


Figure 24: Percentage of on-reserve dwellings in need of major repair

Overcrowding

Nationally, Indigenous people living on reserve experience a significantly higher level of overcrowding than non-Indigenous people; another indicator of housing need (see Figure 25).[49]

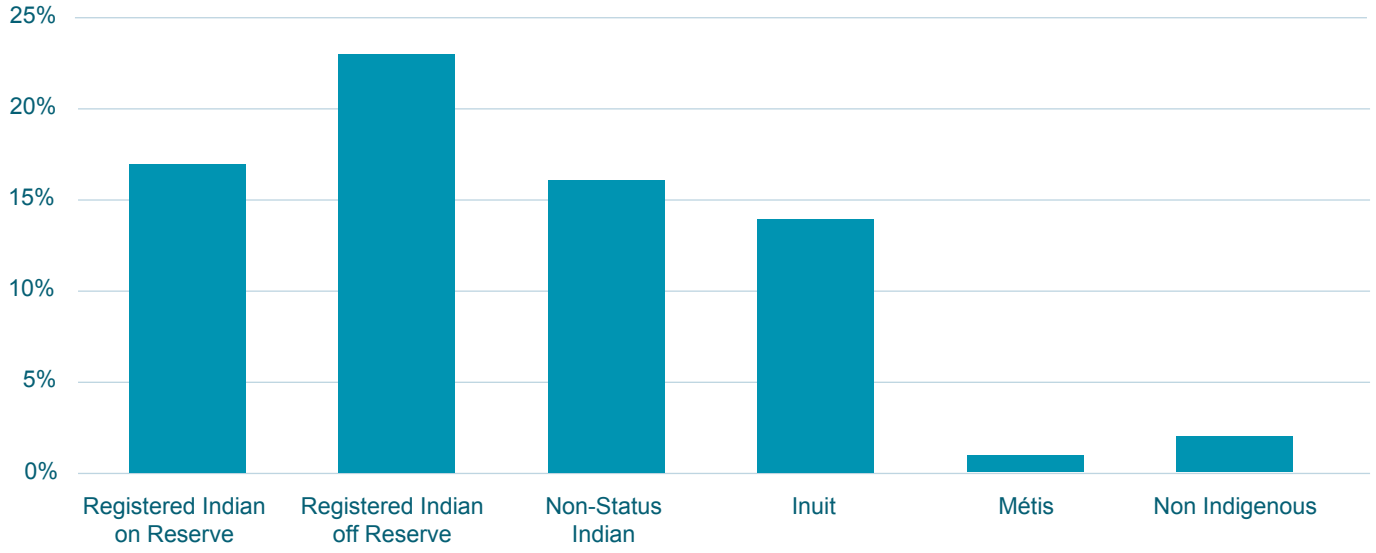


Figure 25: Percentage of dwellings classified as crowded (2021), Indigenous and non-Indigenous populations, Canada

49 Government of Canada; Indigenous Services Canada. (2023, October 25). An update on the socio-economic gaps between Indigenous Peoples and the non-Indigenous population in Canada: Highlights from the 2021 Census.

In British Columbia, 17% of on-reserve dwellings are considered crowded, compared with 23% in Alberta and 16% in Ontario (see Figure 26).

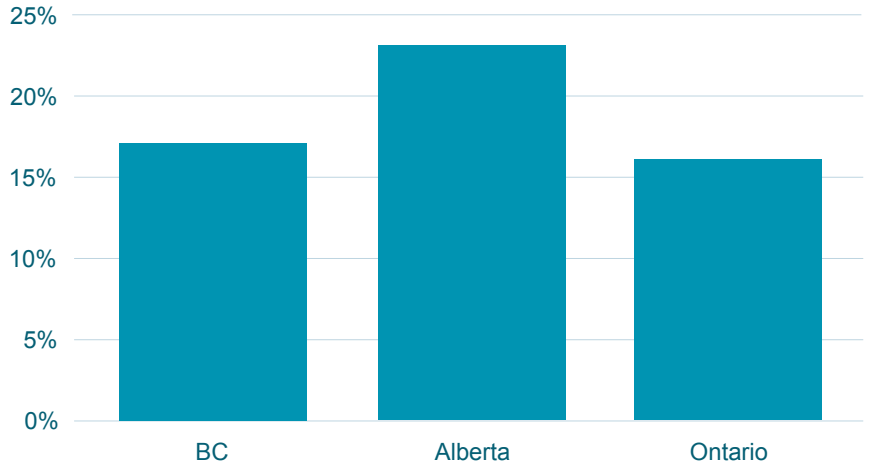


Figure 26: Percentage of dwellings considered crowded on reserve

Note that Statistics Canada defines crowding by the National Occupancy Standards which do not consider cultural differences and individual nation's preferences for household sizes and sleeping arrangements.

From a supply/demand perspective, the HRRP model offers potential to make a contribution to First Nations housing needs across all seven target urban centres. Housing demand is high in every province and city examined, driven by on-reserve population growth, overcrowding, and a large backlog of homes requiring major repair or replacement. First Nations populations located within 100 km of each target urban centre provide an ample pool of recipient communities. Engagement to date also indicates interest by First Nations in the HRRP model as an affordable and timely housing strategy, provided that Nations retain control over housing selection, design adaptation, and delivery. The scale of demolition-driven housing supply in all cities, particularly Toronto and Vancouver, has the potential to meet a meaningful share of projected demand. Overall, the convergence of high unmet housing need, Indigenous interest, and a large pool of potential homes indicates that the HRRP model is a mechanism worthy of consideration for addressing First Nations housing shortages across all seven target urban centres.

6. Technical Assessment

6. Technical Assessment

Figure 27: Porty Moody home being relocated by truck

The lifting and moving of homes is a well proven practice in North America having been carried out for hundreds of years. The act of lifting and moving a home involves many technical considerations that are outside the scope of this study. However, the practice of moving homes has become increasingly complicated as urban cities continue to densify, requiring strategic assessment and planning based on specialized knowledge to safely move them. In addition, homes are considered oversized or overweight freight[50] and are subject to a complex system of permits, regulations, and route restrictions. Consequently, there are a number of additional technical considerations that house moving companies have to address to determine whether to proceed with a move and how to execute it:

- Routing: Identifying safe and legal routes based on the load's height, width, and weight, including seasonal weight restrictions.
- Obstacle Avoidance: Planning for bridge and tunnel clearances, turning radii (sharp turns) and road width (narrow roads, traffic calming barriers), and avoiding overhead wires.

50 Oversize or overweight loads are any vehicles or cargo that exceed standard legal size or weight limits set by provincial or federal transport regulations. With dimensions vary by jurisdiction, general thresholds include:
- Width: Over 2.6 metres (8 ft 6 in)
- Height: Over 4.15 metres (13 ft 6 in)
- Length: Over 23 metres (75ft) combined for truck and trailer
- Weight: Over ~63,500kg (varies by axle configuration)

If a load exceeds any of these size or weight limits, it's officially considered oversized, triggering a unique set of requirements that vary by jurisdiction.

- Permit Compliance: Routing according to each province's and municipality's permit rules and travel restrictions.
- Traffic Considerations: Scheduling moves to avoid rush hours, construction zones and road work, parking restrictions and peak traffic and holiday closures.
- Escort Coordination: Working with certified pilot car teams to manage intersections and tight turns.
- Live Communication: Monitoring the haul in real time to handle any last-minute adjustments.

Every move is unique depending on the specifications of the home and the route it will follow, with safety, timing, and compliance at the forefront. Given the complexity, specialized knowledge and custom equipment required to move homes, only a limited number of companies offer this service in each region of Canada. The study identified a total of twenty-one companies in the seven target urban centres with no more than four companies per urban centre.

Cities, like Victoria and Vancouver, with direct water access have an advantage in some instances. However, certain homes in any city that would otherwise be candidates for relocation cannot technically be moved because of permanent impediments in urban areas and procedural hurdles that make it a less attractive option from a cost and time perspective.

This section details the additional technical considerations common to all jurisdictions: coordinating services, permitting, move corridors, tree management and training. Variations across cities are highlighted with some suggestions for policy reform provided in the recommendations section of this report.

Services Coordination

Depending on the specifics of the project, various services need to be coordinated to support the move, including obtaining permits, notifying utilities and transit authorities to move overhead wires, trimming trees, and obtaining police escorts. For most urban centres, companies must consult a range of sources to identify all of the requirements to facilitate a move. Calgary is unique in providing a Playbook that lays out all the requirements.[51]

In Vancouver, Victoria, Toronto, Hamilton and Ottawa, the house moving company is responsible for coordinating services. Calgary and Edmonton are unique, with the municipality handling the coordination. While this may seem preferable to some, one house moving company in Edmonton shared that this approach increases costs and creates delays that result in homes being lost. For example, Calgary indicates that issuing a move permit takes 7-16 weeks[52], by which time the homeowner or developer has already gotten rid of the home.[53] In contrast, Vancouver indicates it requires 1-2 weeks to issue a permit[54] and Ottawa states 10 days with some permit types issued even faster.[55]

The manner in which services are quoted and administered can also add complexities. According to one Calgary company, the lack of streamlined payments adds administrative burden, and quotes for services that include margins of plus or minus 150 per cent, make it hard to budget for projects.

51 City of Calgary. The Playbook: How to Arrange for a Coordinated Over-dimensional Load Move within the City of Calgary.

52 City of Calgary. The Playbook. P.9.

53 One possible workaround is to permit relocation to a temporary location while permitting is approved. However, these temporary relocations can have building code and permitting implications.

54 City of Vancouver. Oversize truck permits.

55 City of Ottawa. Over-dimensional vehicle permit.

One Edmonton house moving company also observed that policy requirements can be applied rigidly resulting in increased costs and work even in cases where they are not required, e.g., cutting off the roof of a house to meet height restrictions even where there are no overhead obstructions.

Whether services are coordinated by the company or municipality, having a predictable and transparent process for coordinating with service providers is critical to allow moving companies to budget and coordinate moves efficiently and predictably, and to keep planning costs for a move under control. Calgary's Playbook is a model that can be followed in that regard.

Permitting

In order to move a house, all target urban centres require the house moving company to obtain one, and sometimes multiple permits, depending on the conditions of the move. Permits are issued subject to municipal approval and can take as little as one week (Toronto) and as long as 16 weeks (Calgary) to secure (see "services coordination" section above.)

Each of the target urban centres have their own set of requirements that have to be met. These include:

- Travel Restrictions: Many provinces prohibit oversized transport during rush hour, weekends, or holidays, while others restrict allowable travel distances for homes. For example, Calgary restricts house moves to between 1:00am – 5:00am.
- Escort Requirements: Thresholds vary by province. For example, Toronto requires escorts, but the company can provide their own in most instances.[56] Ottawa requires both police and personal escorts.[57]
- Signage & Lighting Rules: Flags, strobes, and warning signs are mandated differently across jurisdictions.

The provincial government of Ontario provides a dedicated section for "Get an oversize/overweight permit" under the Highway Traffic Act, indicating the regulatory threshold and requirements for moves that extend outside of municipal boundaries.[58] Many municipalities require provincial permits to be pulled before issuing their permit.

The cost of permits can also be a significant barrier to the affordability of relocating homes. The City of Calgary base fee associated with over-dimensional permits is $4,500, which includes the costs of coordinating services.[59] Other cities break out their costs, but end up being comparable (see Financial Assessment section below). In Edmonton, companies have to file paperwork for each house in a convoy and pay separate fees for each house; a policy that does not encourage large scale relocation efforts. One house moving company based in Ottawa reported that they have to prepare safety and feasibility studies in some cases, adding to the cost and administrative burden.

Move Corridors

Home relocation companies report that the corridors available to move homes in the large urban centres are decreasing as a result of densification and the increasing presence of utilities, transit wires, trees, signage and

56 City of Toronto. Oversized Load Limits.

57 City of Ottawa. Over-dimensional vehicle permit.

58 Ontario Government. *Get an oversize/overweight permit*.

59 City of Calgary. *Over-Dimensional Permit*.

other obstructions. The three provinces (BC[60], Alberta[61] and to some extent, Ontario) have corridors outside urban centres that facilitate the transport of high/wide/heavy loads. Municipalities, like Vancouver, also have designated routes for oversized loads.[62]

Tree Management

The City of Toronto Code Chapter 813 (Trees) is symbolic of most municipal tree policies, authorising transplanting/removal of street trees only in limited cases (hazardous, interfering with utilities) and requiring a permit to do so.[63] However, there is considerable variation in the municipal rules as to when a tree permit is required and the grounds under which permission will be granted to trim/prune/move trees for the purpose of house moving.

Edmonton, Calgary, Ottawa, and Hamilton have the most operationally distinct policies. Edmonton uses a fixed permit threshold of 5 m from boulevard/open-space trees and 10 m from natural stands, with separate plan requirements depending on whether the work is above ground, excavational, laydown, or access-related.[64] Calgary uses a 6 m trigger for a tree protection plan near City trees.[65] Ottawa uses a critical-root-zone approach that expands or contracts with tree size.[66] Hamilton uses the tree's dripline and expressly regulates staging, preparatory work, and clearance pruning for construction access. Vancouver focuses on not pruning, moving, or otherwise disturbing boulevard trees without written permission and on mandatory protection barriers during adjacent demolition/excavation/construction.[67] Toronto focuses on permits for injury, destruction, or removal and on a broad set of prohibited acts against street trees. Victoria appears to have the most flexible policy, providing clear right-of-way permitting and clear park-tree protection, but not the same kind of setback requirements or construction-trigger language that appears in the policies of other cities.[68] That does not necessarily mean fewer constraints, but rather suggests more case-by-case City review through permitting.

Most city bylaws require written authorization for tree trimming/pruning. According to house moving companies interviewed, Edmonton effectively does not allow tree trimming for the purpose of moving houses, whereas the City of Calgary will allow trimming during certain times of the year for immature trees. City of Victoria staff indicate that the municipality allows some tree trimming for house moving. According to one house moving company in Edmonton, they no longer move homes from the city because of the restrictions.

Tree permit fees range from $50 in Victoria to as high as $425.75 per tree in Toronto and $570 for large scale projects in Hamilton. Vancouver charges $113 for the first tree permit and $374 for each subsequent permit in a 12-month period. Ottawa charges $186 per tree. Interestingly, Edmonton does not charge for permits, but do not issue tree permits for house moving, according to industry representatives.

60 B.C. maintains project cargo corridors and provincial route maps used to support permitting for overwidth/overheight/overweight moves: https://www2.gov.bc.ca/gov/content/transportation/vehicle-safety-enforcement/services/permitting/route-maps.

61 Alberta maintains High Load Corridor Routes: https://www.alberta.ca/system/files/custom_downloaded_images/trans-high-load-corridors-map.pdf

62 City of Vancouver. Truck route maps and regulations; City of Toronto

63 Toronto Municipal Code. Chapter 813 (Trees).

64 City of Edmonton, Bylaw 18825, Public Tree Bylaw.

65 City of Calgary, Tree Protection Bylaw.

66 City of Ottawa, Tree Protection (Bylaw No. 2020-340).

67 City of Vancouver, Protection of Trees Bylaw (section 7).

68 City of Victoria, Tree Protection Bylaw.

Training

Based on our research and discussions with the International Association of Structural Movers, there is no formal training program or certification focused specifically on the lifting and relocation of houses. This highly complex, risky and costly process of training employees is facilitated by house moving companies themselves through on-the-job training and apprenticeship adding to their costs and operating risks. Many companies are family-owned with the skills and knowledge passed down from generation-to-generation.

7. Financial Assessment

7. Financial Assessment

Figure 28: shíshálh Nation relocated and modernized homes

The business case for the HRRP model hinges on whether the model can reliably deliver a habitable home at a lower per-square-foot cost and faster timeline, while also delivering co-benefits (waste diversion, embodied carbon preservation, local employment). Costs can vary considerably depending on the specifics of the project. For example, the origin location of the house and exact destination can greatly influence project costs. Removal of homes from denser urban areas tends to be operationally complex with narrow corridors, overhead utilities, tree canopies, and varied municipal processes that can create schedule uncertainty and increase the facilitation cost stack (permits, utility lifts, escorts, tree work). Transport to remote coastal communities in BC may be more economical because they can be transported by barge rather than by truck. Similarly, remote communities with limited road access and poor road surfaces, elevations and other encumbrances can increase costs associated with receiving homes. Similarly, factors such as local labour and material costs, productivity differences and material transportation costs can greatly influence the cost for traditional and modular construction. Consequently, the figures and examples provided in this section are illustrative only. Those seeking to relocate and retrofit homes are strongly recommended to work with a qualified professional, builder and/or consultant to develop a project budget and financial pro forma model based on project-specific conditions.

Assumptions

For the purposes of this study, a set of standard specifications were generated that aligned with the Renewal Standard developed by Renewal Development, allowing a degree of comparability across construction methods (see Appendix B for the list of specifications, inclusions and exclusions). A key assumption was that the costing analysis only considered the cost of construction (and transportation for modular and relocation scenarios.) For the purposes of this study, permitting, site preparation (i.e., excavation, foundations), utility connections and other charges were excluded; considered equivalent across all three construction methods.

Another consideration is that the calculations do not consider the expected life cycle costing of the housing unit and associated asset management costs. While many elements of retrofitted homes are updated as part of the retrofit phase, there may be additional operating and management costs associated with maintaining these homes compared to newly constructed homes.

Furthermore, it was assumed that the houses are built or transported 100km from the company's location of origin.

Costing Methodology

Baseline costs for Vancouver were derived directly from current supplier quotes obtained from three general contractors (stick-frame construction) and three modular construction companies (modular construction). For relocated homes, actual costs were referenced from recent projects that met Renewal Development's Renewal Standard (see Appendix C), comparable to the standard specifications. Stick-frame construction values were validated against CMHC's 2025 Housing Design Catalogue construction cost summaries for British Columbia.

A stress-testing framework was applied to all construction methods to account for uncertainty at the concept stage. For stick-frame construction, the range reflects variability in labour availability, productivity, and procurement conditions across markets. For modular construction, the range captures variability in factory efficiency, transportation logistics, cranage requirements, and on-site integration costs, consistent with CMHC's finding that modular cost outcomes vary significantly depending on project conditions.[69] For the HRRP model, the range considers additional variable cost drivers such as truck versus barge transport, move permits, escorts, utility coordination, tree trimming, other municipal fees and structural adjustments.

Finally, all values were adjusted across cities using Statistics Canada's Building Construction Price Index (BCPI), which reflects contractor-priced residential construction costs inclusive of labour, materials, equipment, overhead, and profit.

Cost Comparisons

Based on the above considerations, the following table provides cost ranges for the three construction methods across the seven urban centres. Recognizing that cost is highly dependent on project-specific factors, this analysis suggests that the HRRP model can cost approximately 4.5 per cent less than modular construction and 19.8 per cent less than traditional stick-frame construction, primarily driven by avoided new material and manufacturing costs.

69 CMHC. (August 2025). Evaluation of the Rapid Housing Initiative.

City	Relocated Home ($/sf)	Modular ($/sf)	Stick-Frame ($/sf)
Vancouver	$293–$366	$310–$380	$350–$440
Victoria	$296–$370	$307–$391	$347–$453
Calgary	$305–$381	$316–$403	$357–$466
Edmonton	$296–$370	$307–$391	$347–$453
Toronto	$299–$374	$304–$403	$343–$466
Ottawa	$293–$366	$301–$387	$340–$449
Hamilton	$290–$363	$298–$383	$336–$444

Figure 29: Cost comparison between the HRRP model, traditional construction and modular construction across the seven urban centres

Cost Breakdown for Relocated Homes

While there can be a tremendous amount of variation in costs depending on the specific relocation factors and scope of renovations, relocation costs generally constitute 55% - 60% of total project costs with 40% - 45% allotted to renovations (i.e. general structural requirements, energy upgrades and other upgrades) (see Table 4).

Element	% of Total Relocation & Renovation Cost
Relocation	55% - 60%
Renovations	40% - 45%

Table 4: Cost breakdown to relocate and renovate a home

Looking at a more detailed breakdown of relocation costs alone, the highest variance category is transportation from the site of origin to the staging site and then to the final destination (see Table 5). For this reason, moving multiple homes at one time is a key strategy to reducing per unit move costs. Several house moving companies interviewed in different urban centres cite increased costs, time and administrative challenges in coordinating with public utilities, transit authorities, civic works departments and police to facilitate moves. According to house movers in Calgary, municipal costs (e.g. permitting, police escort, utilities, etc.) spread across various phases represent between 7% - 10% of total project costs, while one Edmonton house mover stated that service fees represent approximately 20% - 25% of total move costs. One Calgary mover notes that half of the homes they turn down are because associated service costs make the move uneconomical.

Phase	% of Total Relocation Cost
Move planning & permitting	25% - 30%
Pre-move (lifting, cribbing, steel, etc.)	8% - 12%
Move to staging site	18% - 22%
Transportation to destination	23% - 27%
Final placement	12% - 16%

Table 5: Breakdown of HRRP relocation costs

Cost Variations

As noted, costs associated with relocating and retrofitting a home can vary considerably depending on the specific context of the move. Based on conversations with industry representatives, the following are the major factors that can influence the cost of relocating and retrofitting a home.

- Ratio of site servicing costs to construction costs: Site preparation and connection costs should be the same across all housing models. Depending on the project, these costs can represent the majority of project costs, reducing the overall savings associated with relocating and retrofitting a home over stick-frame and modular construction.
- Type of materials in the home affecting the weight of the load (e.g. brick v wood): What a home is made of can significantly impact the structure's total weight and the associated costs to transport it. Most homes in BC are constructed from wood, while brick is more prevalent in Ontario (see discussion under section 2).
- Shape and form of the house: Municipal limits on the dimensions of oversized loads means that houses sometimes have to be cut into pieces or the roof removed in order to facilitate the move. This can add significant costs to the move and retrofit component of the project.
- Type of transport (truck v barge): The cost to transport homes by water can be significantly less than by road. The cost difference between these two transportation modes increases with distance and the complexity of the trucking route. Cost to transport by barge can also be reduced significantly by transporting multiple homes together, something that cannot be done by truck.
- Distance: The cost of transporting oversized loads is one of the most costly elements of relocating and retrofitting homes. Transporting a home by truck beyond a certain distance can make it more costly than shipping materials, panel construction and associated labour for assembly on site.
- Construction labour costs: Labour is generally the largest cost associated with traditional stick-frame construction. Efficiency in off-site modular or panel construction and relocation are what make them more financially attractive.
- Accessibility: Homes need to be transported long distances and those routes need to be accessible and able to accommodate oversized and overweight loads. With many Indigenous communities situated in rural and remote areas, road systems may be poor or inadequate to accommodate relocations, increasing transport costs significantly, which is why the option to transport by barge in coastal BC is so compelling.
- The first and last mile: Similar to accessibility, significant cost differences can exist depending on the requirements needed to get a home out from its original neighbourhood and into its new neighbourhood. This factor alone may make it cost prohibitive (and technically impossible) to source homes from the major urban centres, refocusing attention on municipal suburbs that have fewer impediments and generally wider boulevards.

Breakeven

Renewal Development's HRRP model was assessed to determine the breakeven point for a similar operation. Given the confidentiality of the values, calculations cannot be disclosed in this study.

Break-even was estimated using a contribution-margin approach. Annual revenue was defined as relocation revenue plus renovation revenue. Variable costs included direct project delivery costs and project-linked labour. Fixed costs included admin payroll, business development payroll, indirect operating costs, and the fixed share of employer costs and benefits. Because operating capacity expands in stages rather than in a straight line, the analysis incorporated step-fixed costs by using the scenario-specific staffing and overhead structure required to support each level of activity. The break-even threshold was calculated by dividing fixed costs by the contribution market per relocated home.

Rounded to whole homes, the model indicates break-even at approximately 11 homes.

Other Considerations

Given the urgency around providing quality affordable housing to Indigenous communities, speed to occupancy is another significant consideration in assessing the merits of various housing solutions. Based on Renewal Development's experience to date, relocating and retrofitting a home takes 6-12 months from the point of securing the home to occupancy. The CMHC reported that the average times to construct a new single-family home has been increasing over the years, reaching an average 11.3 months from foundation to occupancy in 2023 for five of the seven urban centres considered in this study.[70]

While the costs for materials and labour are factored into the business case above, missing from the analysis is the considerable time and resources required on the part of the Indigenous community to administer and accommodate crews on-reserve and the provision of building supplies, particularly smaller nations in remote areas that already face housing shortages and challenges in accessing materials.

From a lifecycle assessment perspective, it is also important to consider the indirect and external costs of various affordable housing solutions, including preservation of embodied carbon, avoided GHG emissions and waste, and in some cases, the preservation of heritage-quality materials. It is estimated that the average 1,300 sq ft wood frame bungalow contains approximately 49 metric tonnes of building material (not including the foundation) representing a minimum of 23 metric tonnes of embodied carbon.[71]

There is very limited published comparative data on emissions associated with different housing delivery models. Emissions will also vary depending on a range of factors, including the exact size and material specifications of the house, travel distance and mode of transport. One study evidenced that relocating a 2,000 sq ft structure in Metro Vancouver by barge and retrofitting it to Step Code 3 generated (38.6%) less embodied carbon emissions and 9.6 tonnes (24.1%) less total life cycle carbon emissions (i.e., embodied and operational) than an equivalent newly constructed Step Code 3 building (including demolition of the original structure) over a 60 year lifespan.[72]

70 CMHC. (Spring 2024). Housing Supply Report. P.10.

71 Metro Vancouver. Demolition Waste Generation Rates Calculator.

72 Shijie Wang & Gil Yaron. (2024). *Comparative Life Cycle Assessment of the Relocation and Retroit of Henry Hudson Elementary School*. Light House Sustainability Society.

Additional Financial Support

The foregoing financial analysis reflects the comparative costs of relocation and retrofitting existing homes with modular and stick-frame construction. In addition, First Nations can reduce costs further by accessing a range of financial supports. Some of these are available for all housing delivery models. However, the HRRP model has the added benefit of being able to access funding opportunities for existing homes and new construction (see further discussion below regarding treatment of relocated homes as new construction v existing homes.)

Funding and financing programs vary over time. At the time of preparing this study, our research identified no less than 31 potential sources of financial support that aligned with the HRRP model. These sources are grouped into four major funding categories:

1. Affordable housing: Targeted programs that support new construction in underserved areas, especially Indigenous communities. They include pre-development, capital, and demonstration funding under regional, provincial, and national housing strategies.
2. First Nations Housing: Programs that support the provision and maintenance of housing on-reserve.
3. Preservation of existing housing: Programs that support structural upgrades to existing housing stock in order to extend their useful life.
4. Energy efficiency and retrofits: Rebates and grants focused on energy upgrades to reduce emissions and improve housing resilience, including coastal areas. They are typically administered through federal programs and provincial utilities.

Most programs are offered through federal or provincial governments, or through public utilities, and historically are subject to change.[73] Table 6 provides a breakdown of the current incentive programs offered in BC, Alberta and Ontario. The federal government, and to some extent the provinces, offer a range of incentives to support either new construction or retrofitting of existing homes on-reserve. To date, the majority of these programs have not been accessed by Indigenous communities to support an HRRP model so we cannot confirm eligibility (see further discussion below regarding treatment of relocated homes as new construction v existing homes.)

Funding Pathway	National	BC	AB	ON
Indigenous Housing	6	1	1	1
Affordable Housing	2	1	0	0
Energy Retrofits	0	8	3	6
Existing Housing	1	1	0	0

Table 6: Current incentive programs that align with the HRRP model

A range of energy retrofit programs are available in all three provinces that cover all phases of work from community energy plans through energy assessments to support for specific upgrades. Some are tailored to Indigenous communities while others are more general energy retrofit programs, but all are available to Indigenous communities.

73 This study did not explore financing available through financial institutions and private lenders as many First Nations and Indigenous communities face significant challenges in accessing this type of capital.

Currently, there are only a few incentive programs that support the preservation of existing housing. One notable example is the BC Rental Protection Fund. The Fund was originally established by the BC government in 2023 "to support non-profit housing providers to acquire at-risk buildings and protect their affordability for the long-term." While the fund did not initially contemplate relocation as a strategy to preserve rental housing stock, the Fund has since has accepted home relocation as a preservation strategy.

The way that funders choose to characterize relocated homes is one of the potential risks for the HRRP model. In some instances, relocated homes are considered to be existing homes. In other cases, they are viewed as new housing. Depending on how the funding or financing provider characterizes the relocated home can determine whether it is eligible for the particular funding or financing. Unfortunately, few providers state their perspective explicitly so it's only when a project goes to request funding or financing that eligibility is assessed. Depending on one's perspective, relocated and repurposed homes can be viewed as either or both.

The other challenge in accessing financing is the limited capacity of many Indigenous communities to handle the administrative requirements associated with submitting funding applications. Indigenous housing representatives interviewed indicate lack of capacity to source and apply for various funding opportunities.

Based on the above analysis, the financial case for the HRRP model is strengthened where the following conditions are present:

- The house-only delivered cost advantage is preserved, which is augmented where multiple homes are relocated together creating economies of scale.
- The project can use a standardized retrofit scope and avoid major structural reconfiguration.
- The recipient project can credibly stack non-repayable funding.
- The project benefits from the broader waste and carbon value proposition, which can unlock municipal/developer contributions or preferential capital.

Modular or new construction is more favourable under the following conditions:

- The project needs high design flexibility (accessibility layouts, multi-unit optimization, stringent envelope targets beyond a standardized retrofit).
- Where complexities associated with transporting the home (transport, permits, utilities, escorts, tree work, lane closures) become large enough to erode the house-only savings (although these may impact certain types of modular construction similarly depending on the product's point of origin).

8. Policy Assessment

8. Policy Assessment

Figure 30: Home demolition waste prevention forum

Relocating homes is legally permissible in all seven target urban centres as evidenced by policy and practice. Most jurisdictions explicitly reference house moving in their policies related to the movement of oversized structures. All seven target urban centres have home relocation companies that service their area. However, policy pertaining to the relocation of houses resides at all levels of government – federal, provincial, regional and municipal – creating a fragmented, layered, complex and highly site-specific environment in which to operate. Moreover, discussions with numerous government and industry representatives affirms that there is no unified framework across levels of government that supports the prioritization of home relocation over demolition.

This section canvases some of the principal policy areas that impact the relocation and retrofitting of homes.

Federal Policy

Federal policy with respect to tax, transportation, housing, and to some extent climate, influence industry's and homeowner's appetites for relocating homes.

Tax Policy

In Canada, the sale and purchase of a principal residence is GST exempt, providing a benefit to a homeowner selling their home to be relocated.[74] Alternatively, a homeowner or developer can donate a home to a "qualified donee" [75] and receive a charitable tax receipt for the appraised fair market value of the house.[76] However, the prevailing practice is that developers and homeowners looking to remove an existing house in order to develop a lot ascribe no value to it and demolish it.

74 Government of Canada. (August 2004). *Sales by Individuals of Owner-Occupied Homes*.

75 Government of Canada. (August 15, 2011). *Federal guidance on qualified donees*. Ref. no. CG-010.

76 Government of Canada. (November 2, 2018). Determining fair-market value of non-cash gifts.

Housing Policy

Federal housing policy contains goals (e.g. waste diversion, preservation) that are consistent with relocation, but does not explicitly prioritize it. Canada's *National Housing Strategy* calls for no net loss in social housing, mitigating waste on projects and preserving existing housing.[77] While not binding, the *Greening Government Strategy* directs that all federal construction projects achieve 90% diversion of all construction and demolition waste by weight from landfills, increasing to 100% by 2030.[78] And Goal 11 (Sustainable Cities and Communities) of the *Federal Sustainable Development Strategy* adopted in response to the United Nations Sustainable Development Goals, calls to "accelerate work to close gaps in Indigenous housing and infrastructure."[79]

Climate Policy

Federal policy on climate and the circular economy can also have a bearing on federal projects. For example, the federal government's *Greening Government Strategy* provides that all federal organizations will implement a "Buy Clean" policy with respect to all federal operations to reduce the environmental impact of construction materials and design in major construction projects, including:

- disclosing the amount of embodied carbon in the construction materials;
- conducting whole-building (or asset) life cycle assessments by 2025 at the latest; and
- reducing the embodied carbon of major construction projects by 30% starting in 2025, using recycled and lower-carbon materials, material efficiency and performance-based design.[80]

Relocating existing homes situated on the site of major federal construction projects could support achieving these outcomes.

Canada's 2030 Emissions Reduction Plan also commits the federal government to become net zero carbon by 2050.[81] This includes commitments to explore additional opportunities such as mobilizing indigenous sector financing to support deep retrofits and clean energy initiatives. However, current carbon reduction targets are focused on operational emissions and have yet to address embodied emissions (e.g., the combustion and/or decomposition of wood from demolition.)

Provincial Policy

There are a range of provincial policies that directly and indirectly impact the ability to relocate homes, notably provincial building codes, development directives, and policy governing utilities.

Provincial Building Codes

There is uncertainty about the treatment of relocated homes under provincial building codes. Provincial building codes provide that relocated buildings are to be treated as existing buildings for the purpose of meeting code

77 See National Housing Strategy Quarterly Progress Reports.

78 Government of Canada. (September 16, 2025). *Greening Government Strategy: A Government of Canada Directive*.

79 Government of Canada. *Federal Sustainable Development Goals 2022-2026*. Goal 11 ("Improve access to affordable housing, clean air, transportation, parks, and green spaces, as well as cultural heritage in Canada")

80 Government of Canada. See note 77 above.

81 Environment and Climate Change Canada. (2022). *Canada's 2030 Emissions Reduction Plan*.

requirements.[82] For example, the BC Government's Building & Safety Standards Branch has affirmed that subject to addressing safety considerations and any new alterations made to an existing structure, "an existing building moved to a new location is not considered a new building by the Code."[83] However, this classification is only contained in the Building Code's appendices, which are provided to clarify the intention of the Code and are not legally binding. This creates both opportunity and uncertainty for the HRRP model. On one hand, it can be argued that relocated homes are either new construction or as existing structures as needed to suit the context. On the other hand, the lack of clarity on this point makes it difficult to plan relocation projects because of uncertainty over what upgrades may be required and what financial support will be available to help subsidize moves. Furthermore, building inspectors at the local level have discretion on how they choose to classify relocated homes adding additional risk to obtaining necessary permitting and approvals. Given this uncertainty, it is important to clarify the treatment of relocated homes in each instance.

Home relocation may benefit from a relaxation of Code requirements in the future. Alternative compliance measures for relocated homes are being considered for the National Building Code, similar to those in place for heritage properties.[84]

Development Directives

With the focus on increasing the availability of affordable housing, provincial governments have set housing quotas and, in some instances, directed municipalities to streamline their permitting processes and remove other barriers that delay construction. BC's government has introduced various legislation, regulations and incentives to streamline development approval processes, including the *Infrastructure Projects Act*, amendments to various regulations, and direct funding to support local governments to streamline their permitting processes.[85] Alberta's mandate letter to municipalities imposes a number of directives, including "complet[ing] development of an 'Automatic Yes' permitting program which will set shortened approval timeframes for all permitting overseen by the Ministry of Municipal Affairs coupled with an automatic approval for applications that are not rejected prior to the lapse of the maximum allowable assessment period" and "streamlin[ing] approval processes and reduc[ing] impediments for all permitting overseen by the Ministry of Municipal Affairs to enable the timely development of affordable housing."[86] The Ontario government recently gave royal assent to the *Protect Ontario by Building Faster and Smarter Act, 2025 (Bill 17)*.

In this context, provincial and municipal governments are unwilling to entertain policies that support home relocation if they are perceived to add delays to the development process (e.g., a requirement to assess a home slated for removal to determine whether it is a candidate for relocation.) For example, one BC municipality that favours relocating homes in principle has indicated that, despite the apparent benefits in requiring a pre-demolition assessment of all structures slated for removal (see recommendation 8 below), such a policy would go against the provincial directive. One building inspector interviewed during the course of this research stated they will not support home relocation in their community because those homes do not count towards the Province's housing goals.

82 Building codes are not applicable with respect to Treaty First Nations that do not reference provincial building codes in their agreements, or to structures on federal lands. However, most First Nations do follow building code requirements as a matter of course to ensure building quality and safety. The City of Vancouver has its own Building Bylaw that sets special upgrade requirements for relocated homes (see section 11.2.1.6), however this is of little significance to the HRRP model because homes are not being moved into the city.

83 BC Building & Safety Standards Branch. (April 2, 2024). "Relocated Buildings" *Information Bulletin No.B24-07*.

84 Vancouver Building Bylaw, Part 11, Division B, Section 11.5, "Alternative Compliance Measures for Existing Buildings".

85 *Infrastructure Projects Act (Bill 15)*; BC Gov News. (Sept 24, 2025). "Funding boost will help local governments deliver homes quicker."

86 Alberta Municipalities. (Sept 23, 2025). "New Municipal Affairs Mandate Letter Released."

Utilities

Addressing utility infrastructure (i.e. overhead wires) can sometimes pose complex challenges when attempting to relocate homes, particular in dense urban environments. For example, the BC Ministry of Transport and Work Safe BC require sliding systems as safety equipment on moves.[87] Sliding systems (often referred to as "sliding rails" or "steel pipes") are specialized structural engineering equipment employing a low-friction track using steel beams, rollers, and heavy-duty hydraulic jacks to move a house off its original foundation or onto a new one without lifting it with cranes, allowing the structure to glide horizontally.[88] One house moving company has alleged that the local utility company prohibits the use of sliding systems near their lines, increasing risk and liability for transporters.[89]

Similarly, according to house moving companies interviewed, the Ministry of Transport allows them to determine whether overhead lines need to be moved or not[90], yet some utilities require a sanctioned line-lifting contractor to be deployed for a move regardless of whether lines need to be moved, driving up expenses. According to one industry representative, fees to lift overhead wires can be in the tens of thousands of dollars and the utility requires their approved staff on site even where line lifts are not required. At times, only one contractor has been approved by the utility, enabling these contractors to raise their prices by as much as three times to which the utility applies a 20 per cent mark up.

In Alberta, the province has reduced utility challenges for over height moves by mandating underground lines for new utilities infrastructure.

Regional/Municipal Policy

The ability to relocate existing homes is most impacted by municipal and regional policy. Specifically, policies with respect to land use and planning, zoning, permitting, demolition, solid waste (landfill tipping charges), heritage preservation, and the movement of oversized structures within city limits all dictate the level of friction associated with relocating houses and the ability to operate an HRRP at scale.

Land use and planning

As noted, most major urban centres in Canada have adopted growth strategies that promote redevelopment and densification of existing urban lands, implicitly resulting in removal of existing homes to accommodate this growth. Calgary is a typical example. The City's Municipal Development Plan /Calgary Plan and Transportation Plan target 50% of new growth in "Developed Areas", supported by the City's Transit-Oriented Development (TOD) framework that encourages mixed-use, higher-density development along CTrain corridors.[91]

This common approach to urban development targeting densification in residential neighbourhoods close to transit corridors is one of the most significant factors driving the increase in demolitions, and by extension the supply of homes, over the next decade. For example, the build out of the Broadway Corridor Area in Vancouver

87 See Commercial Vehicle Safety and Enforcement Form CVSE1052, "District Authorizations & Notifications for Very Large Loads."

88 See e.g. https://www.bailey-homes.ca/2016/07/10/rtm-moving-day/#:~:text=Then%20the%20house%20is%20lowered,onto%20its%20final%20resting%20place.

89 See https://www.lobbyistsregistrar.bc.ca/app/secure/orl/lrs/do/clntSmmry?clientOrgCorpNumber=5782&sMdKy=1774843009407&V_TOKEN=1774843009407

90 See note 87 above.

91 City of Calgary. Municipal Development Plan/Calgary Transportation Plan 2022 Monitoring Progress Report; *Transit Oriented Development Policy Guidelines*. As amended December 12, 2005. (Policy no. LUP002).

under the Broadway Plan is expected to result in the removal of more than 1,000 single-family homes alone over the next ten years.[92]

In addition to the impact of land use planning policy on the supply of homes, land use policy can also have an impact on the operations of house moving companies. For example, Calgary's Land Use Bylaw can impact project costs by requiring compliance with district rules while the house remains on site (e.g., you cannot temporarily place it elsewhere on the lot if it violates setbacks, etc.), potentially impacting project costs.

Zoning

Most of the target municipalities have, or are in the process of, overhauling their zoning to facilitate the incremental densification of neighbourhoods, such as consolidating residential zoning categories to allow for multiplex housing on single-family lots. This evolution in zoning policy is directly responsible for an increase in demolitions. For example, the City of Vancouver introduced its R1-1 Residential Inclusive zone in September 2023, consolidating and simplifying nine low-density residential zones into one zone and introduced a "multiplex" option allowing for 3-6 ownership units or eight rental units on one lot. In response, city staff report there were 290 multiplex applications in 2024 and another 68 in the first quarter of 2025 with more than 90 per cent involving removal of an existing home.[93]

The City of Toronto implemented similar zoning revisions in May 2023 allowing multiplexes up to four units, resulting in 452 permit applications within the first 18 months.[94] However, the result has differed from the experience in Vancouver to date, with city staff reporting that only 25.4% of those applications being "new home" applications.[95] Many factors could account for this difference, including the lower maximum permissible number of units, making it more economical to do infill or retrofitting of the existing structure. The other target urban centres have either implemented similar rezoning policies, or are in the process of introducing them.[96] The experience of Auckland, New Zealand may also be informative where a similar rezoning policy resulted in 7,500 demolitions tied to the construction of 20,000 multiplexes.[97]

Permitting

To a greater or lesser extent, all target municipalities permit the relocation of existing homes. However, the municipal building permitting process can strongly influence industry decisions to relocate a home rather than demolish it. Each municipality's permitting process framework also offers different opportunities to advocate for home relocation.

All target municipalities employ some variation of a two-permit system: demolition permit followed by a building permit. In all cases, a demolition permit is required to relocate an existing house. With the exception of Hamilton, all target municipalities reference relocation explicitly in their permitting bylaws and have set requirements for obtaining a permit. Edmonton, Calgary, Vancouver, and to some extent Victoria also require a Development Permit (DP) for

92 Based on a count of single-family homes within the boundaries of the Broadway Plan conducted by Light House using Autoprop software. For boundaries, see City of Vancouver. Broadway Plan. As amended October 21, 2025.

93 City of Vancouver. (May 29, 2025). Memo to Mayor & Council - Update – R1-1 Residential Inclusive Zone and Multiplex.

94 City of Toronto. (May 31, 2023). Bylaw 569-2013 ("Multiplex Bylaw").

95 City of Toronto. (May 29, 2025). Report for Action: Expanding House Options in Neighbourhoods – Multiplex – Monitoring Program – Final Report.

96 In the case of the City of Calgary, community dissatisifcation has resulted in the City repealing its Land Use Bylaw 1P2007 that implemented city-wide rezoning. City of Calgary. C2026-0153: Repeal of Blanket Rezoning (Land Use Bylaw 1P2007 Amendments Implementing Citywide Residential Rezoning), Proposed Bylaw 9P2026, LOC2026-0010. Public Hearing of Council, March–April 2026.

97 One Final Effort: Auckland.

single detached and semi-detached dwellings before relocation can proceed. For Ontario municipalities, there is no development permit requirement, rather site plan control and demolition control conditions are considered during planning approvals. See Appendix G for detailed permitting requirements by target urban centre.

For most municipalities, there are no specific requirements that must be met to obtain a permit to relocate a home. The requirements fall under the requirement to obtain an oversized moving permit, in which case those permits generally require obtaining insurance, conducting route checks, obtaining zone permits to clear parking and providing pilot vehicles.

Vancouver and Victoria are unique in requiring a deposit (Vancouver: $14,650; Victoria: $19,500) when pulling a demolition permit, which is refunded upon providing evidence that the home was relocated (or deconstructed).[98] While Victoria has seen an increase in the number of homes deconstructed in response to this policy, relocations have not seen a similar increase.[99]

Landfill Tipping Charges

Considering the average demolished home generates between 40-65 tonnes of materials[100], costs to transport and dispose of CRD materials can be a significant incentive for developers and general contractors to consider alternative house removal options. Across the seven target urban centres examined, municipal disposal fees vary considerably, sending different economic signals to builders.

For illustrative purposes, the study considered a 1,400 sq ft home generating 50,000kg of mixed waste comprised of wood (35%), drywall (20%), asphalt shingles (10%), metal (5%), concrete/masonry (non-foundation) (15%), and other mixed materials — plastics, insulation, flooring, garbage (15%).[101] In that example, jurisdictions with strongly differentiated rates for recyclable materials (typically clean wood, metal, drywall, concrete) create clear cost penalties for mixed loads with total disposal costs as high as $15,700, whereas cities with flat-rate structures exert weak incentives for waste diversion with total costs as low as $5,500 (see Figure 31).

Vancouver, Victoria, Ottawa, and Calgary impose significant surcharges when recyclable materials are present in mixed CRD loads. Vancouver applies a 50% surcharge to garbage loads containing banned recyclables, resulting in an effective rate of approximately $230 per tonne. The Capital Regional District that operates the Hartland Landfill servicing the City of Victoria has implemented a ban on clean wood and applies a base tipping fee for renovation and demolition materials ($155 per tonne), which doubles for unsorted loads. Ottawa's Solid Waste Services by-law imposes a "mixed garbage and recyclable" rate of $314 per tonne, double its standard rate. Calgary uses a "disposal surcharge" of $180 per tonne for loads containing recyclable material such as clean wood, drywall or metal. These cities send strong economic signals supporting home relocation as a landfill-avoidance strategy. In contrast, C&D landfills servicing Edmonton, Hamilton, and Toronto maintain relatively flat or lightly differentiated disposal rates (approximately $110—160 per tonne) that apply broadly to most mix-load CRD materials. In these municipalities, costs provide relatively weak incentives for reuse.[102]

98 City of Vancouver. *Green Demolition Bylaw No. 11023*; City of Victoria, Demolition Waste and Deconstruction Bylaw No.22-062.

99 Email correspondence with Rhiannon Moore, City of Victoria. December 29, 2025.

100 Multiple independent sources place total demolition mass for a typical 1,300 sq ft wood-frame detached house (excluding the foundation) in this range, depending on age, size and construction details: Metro Vancouver demolition audits (45-60 tonnes), CMHC reports similar ranges for pre-1980 housing stock. Material composition breaks down as follows: wood (35%), drywall (20%), asphalt shingles (10%), metal (5%), concrete/masonry (non-foundation) (15%), and other mixed materials — plastics, insulation, flooring, garbage (15%). See Metro Vancouver, *Construction & Demolition Waste Toolkit — Waste Composition Calculator* (2017, updated 2023); CMHC, *Renovation Waste Audit*; Ontario Ministry of Environment, *Residential Demolition Waste Study*.

101 See Metro Vancouver. Footnote 6.

102 Rates applied are from public landfills with posted rates. Private landfills that accept CRD materials for each target urban centre may charge higher or lower tipping fees for mixed and separated loads.

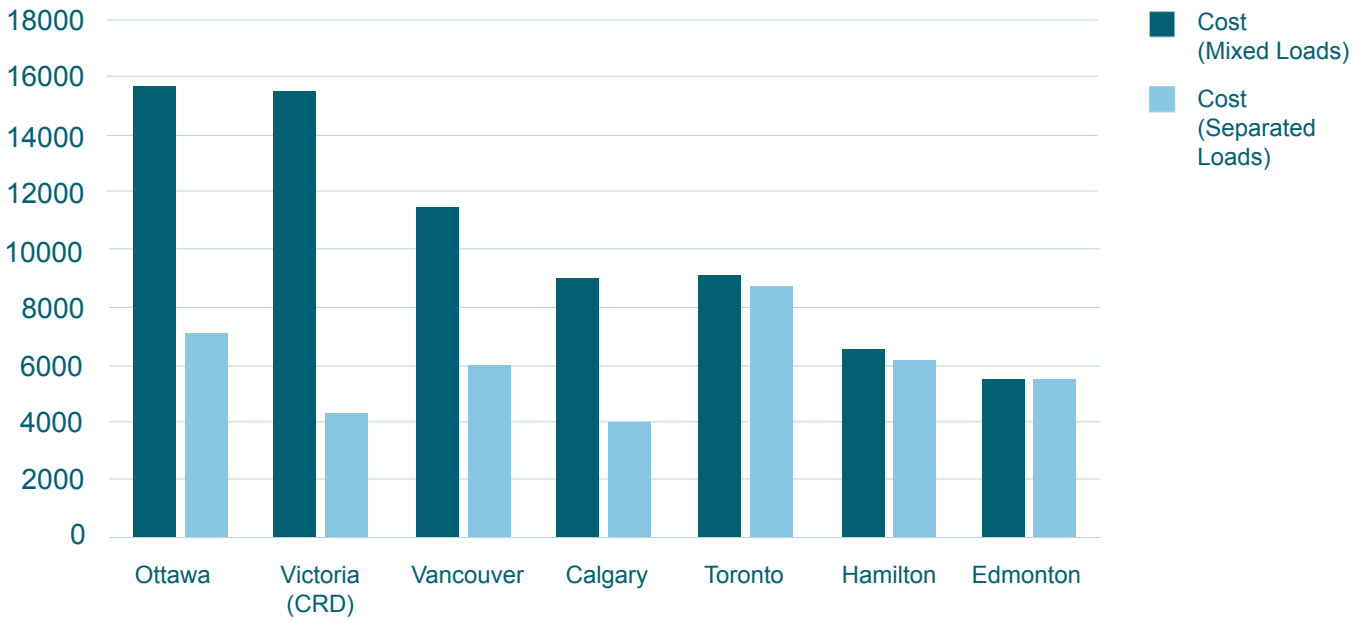


Figure 31: Average landfill disposal costs for a single-family home by municipality

Heritage Preservation & Adaptive Reuse

Municipal heritage—designation regimes help preserve older houses and are increasingly looking at relocation to save homes. The Calgary Plan directs the city to "support the adaptive re-use and conservation of heritage resources and incentivize qualifying heritage resources for municipal historic resource designation." (p.15) Moreover, it encourages "development impacting heritage resources…to conserve the embodied energy and carbon and explore further energy retrofits and climate mitigation opportunities in alignment with national heritage conservation standards and guidelines." (p.33) However, where relocation is contemplated in municipal heritage preservation bylaws and guidelines, it is generally directed at relocation ***in situ*** as part of maintaining the historic integrity of 'location' and 'setting'.[103]

All target municipalities also offer grants and/or tax incentives to support heritage preservation.[104] However, these are generally structured around in-place conservation/ rehabilitation offering grants for rehabilitation work, maintenance and property tax relief. The application of these incentives to historic structures moved outside city limits has not been tested, but current policy suggests that municipalities are unlikely to provide incentives for projects located outside their jurisdiction.[105]

Movement of Oversized Structures

All provinces have policies governing the transport of oversized loads (see discussion under "Technical Assessment" section). Similarly, all seven target municipalities have bylaws and permitting requirements governing

103 Sarah Gamble, "House relocation: A redevelopment tool for rapidly changing urban environments." (2024). *Cities – The International Journal of Policy and Planning*. 154:5.

104 Vancouver's Heritage Incentive Program and Heritage Revitalization Agreements; Victoria's Heritage Tax Incentive Program and House Grants Program; Calgary's Historic Resource Conservation Grant Program; Edmonton's financial incentives for municipal historic resources; Ottawa's Heritage Property Grant Program; Hamilton's Heritage Revitalization Grant Program.

105 Toronto's Heritage Property Tax Rebate Program explicitly disqualifies relocated buildings. City of Toronto. By-law No.357-2015, s.103-32(E)(3).

the movement of oversized loads within city limits. The scope of these bylaws vary covering a variety of elements impacting the movement of large loads (e.g., load limits, escort vehicle requirements, time-of-day restrictions for moves, traffic safety, service coordination requirements, etc.)

Generally, there is good alignment between provincial and municipal requirements. However, none provide a turn-key framework for coordinating services to make the approval process more streamlined and cost-efficient. In addition, the challenge for house movers moving homes longer distances is that policies in are not harmonized, which can add complexity and cost to the move. For example, the City of Toronto publishes specific municipal thresholds for when a single-trip oversize permit is required (4.15 m high, 2.59 m wide, 21.33 m long, or 50,000 kg), while Hamilton's bylaw is tied to loads or structures that exceed the limits in the *Highway Traffic Act*.[106] In another instance, Toronto requires a $2 million certificate of insurance naming the City as an additional insured, while Hamilton requires proper liability insurance and goes further allowing the General Manager to require a bond or irrevocable letter of credit sufficient to cover potential highway damage and to indemnify the City.[107]

Climate

As noted above, one of the advantages of the HRRP model is the preservation of embodied carbon through retention of the house itself and avoidance of GHG emissions that would otherwise occur from the burning or decomposition of organic materials (primarily wood). The majority of the target municipalities encourage building retention as part of their climate policies pertaining to construction. However, policies generally take a project-centric approach, apply to large Part 3 buildings only (not Part 9 single-family homes), and do not recognize embodied carbon preserved through relocation. For example, the City of Edmonton's *Climate Resilient Design and Construction of City Buildings* applies a "reuse-first" approach directing project teams to consider whether needs can be met through the existing building portfolio.[108] The *Toronto Green Standard v4* assigns embodied emissions of zero for the reuse of existing structures and/or salvaged materials on site in mid- to high-rise residential and non-residential builds, but does not contemplate offsetting embodied carbon through the relocation and preservation of the same existing structures.[109] Home relocation could benefit from municipal policy recognizing and incentivizing the preservation of embodied carbon and avoidance of associated GHG emissions through the relocation of existing structures.

106 City of Toronto. Oversized Load Permit; City of Hamilton. Bylaw to Regulate Traffic. Bylaw no. 01-215.

107 See note 101.

108 City of Edmonton. (September 3, 2024). *Climate Resilient Design and Construction of City Buildings*. Policy C627.

109 Toronto Green Standard v4. Tier 3, GHG 2.2. Extra Low Embodied Emissions Materials: "Any existing structure reused as part of a renovation/rehabilitation and/or salvaged material incorporated into the project can count as embodied emissions of zero and therefore be excluded from the assessment."

9. Conclusions

9. Conclusions

Figure 32: Henry Hudson Elementary Schoolhouse ("Little Yellow School House") being relocated by barge to the Squamish Nation.

This investigation suggests that a home relocation and repurposing program akin to the model developed and implemented by Renewal Development in British Columbia's Lower Mainland is technically feasible in all seven target urban centres considered in this study. However, the findings also indicate that the ability to physically move homes is not, on its own, the central determinant of success. Rather, the viability of an HRRP model depends on a combination of factors: the availability of suitable homes slated for removal, the practical ability to secure and move those homes through increasingly constrained urban environments, the economics of transport and retrofit, and the ability to match homes with recipient communities that determine the housing form is appropriate and have the land, infrastructure, financing, and local capacity to support implementation. In this respect, the model should be understood not simply as a logistics exercise, but as a coordinated housing delivery pathway that depends on alignment across supply, technical, financial, policy, and community conditions.

Across the seven urban centres, the study identifies a meaningful supply of homes slated for demolition over the coming decade, particularly in Vancouver, Toronto, and Edmonton. This supports the core premise that a significant number of sound single-family homes continue to be removed from urban markets even as housing needs remain acute elsewhere. At the same time, the report makes clear that forecasted demolition volumes and theoretical eligibility should not be equated with deliverable units. The estimate that a portion of homes slated for removal may be eligible for relocation is an indicative screening assumption only. The number of homes that can actually be mobilized will be reduced by route constraints, permitting and utility coordination, structural characteristics, timing, project economics, and whether recipient communities conclude that relocated single-family homes are suitable for their needs and priorities.

The demand analysis demonstrates that unmet housing need among First Nations in the regions surrounding all seven urban centres is substantial. However, it does not assess demand for relocated homes across all Nations. Housing needs, governance structures, cultural preferences, infrastructure conditions, financing readiness, and local planning priorities vary significantly from one Nation to another. As a result, demand analysis requires a Nation-led assessment of whether relocated homes are appropriate in each specific context.

The technical and policy analysis confirms that home relocation remains possible in all seven urban centres, but that it is becoming more operationally complex as cities densify and as utility, tree, traffic, and permitting constraints accumulate. No jurisdiction examined has a unified policy framework that prioritizes relocation over demolition. Instead, proponents must navigate fragmented regulatory environments in which success depends heavily on local administration, coordination, and timing. Some cities appear to provide greater transparency or more workable conditions than others, but in all cases the process remains highly site-specific. Equally critical is the receiving-site conditions. Land availability, servicing, water and wastewater capacity, power supply, road access, and local project readiness can all determine whether a theoretically suitable home can in practice be delivered and occupied.

From a financial perspective, the study supports the conclusion that relocated and retrofitted homes can be cost-competitive with modular and stick-frame construction, particularly where multiple homes can be moved together, major structural reconfiguration can be avoided, and non-repayable funding can be layered into the project. At the same time, these findings should be treated as illustrative rather than predictive. Costs remain highly sensitive to project-specific factors such as route complexity, transport mode, labour and material costs, permitting, and receiving-site conditions. The financial case is strongest where the delivered house-only cost advantage can be preserved and where coordination costs do not erode that advantage. Accordingly, the HRRP model should not be understood as uniformly cheaper in every market, but rather as financially favourable under a set of identifiable conditions.

Taken together, the findings suggest that the HRRP model is best understood as a promising but conditional circular housing strategy. It offers a credible pathway to preserve embodied carbon, avoid demolition waste, and contribute to housing supply in underserved communities, but its expansion across Canada will depend on more than the presence of demolition activity. Scalable implementation will require urban source markets with reliable supply, municipal and utility processes that do not introduce prohibitive delay and cost, project economics that remain favourable after coordination costs are included, and recipient communities that determine the model fits their housing objectives and have the means to support delivery.

City-by-city viability assessment

Based on the above, the seven urban centres examined in this report do not offer equal opportunity. Rather, they fall along a spectrum of relative readiness and potential. The following provides a brief, high-level summary assessment for each of the seven target urban centres from west to east and not necessarily based on their level of readiness.

Victoria

Victoria appears to offer a plausible but constrained opportunity for the HRRP model. Although the city is smaller than several other target markets, it shows elevated demolition rates relative to most municipalities and a steady upward trend in removals. The city also has a refundable deposit framework, which explicitly recognizes relocation as a preferred outcome; that creates a direct and practical incentive for owners and builders to

consider relocation rather than default demolition. However, in practice, Victoria has seen only a few relocations since the bylaw came into effect in 2022. While its coastal geography creates potential advantages in cases where barge transport can be used, the absolute scale of supply is limited, which constrains growth potential and increases the risk that a stand-alone operation would experience interruptions in the supply of suitable homes. On that basis, Victoria appears better suited to selective or regionally integrated HRRP activity than to a large stand-alone operation.

Vancouver

Vancouver remains one of the strongest candidate markets for the HRRP model. It combines the highest demolition rates in the study with sustained redevelopment pressure, a large forecast supply of homes slated for removal, significant nearby First Nations populations, and a coastal geography that can support marine transport to coastal communities. Vancouver also benefits from demonstrated experience through Renewal Development's existing work. However, the current draft makes clear that these advantages are offset by the complexity of operating in a dense urban environment with constrained move corridors, utilities, tree protections, and other physical and procedural barriers. Even so, Vancouver continues to present the clearest alignment of supply, demand context, demonstrated practice, and circular-economy value.

Calgary

Calgary appears to be a feasible but more conditional market for the HRRP model. The city shows a meaningful supply base and benefits from having a relatively transparent framework through its municipal Playbook for coordinated over-dimensional load moves. However, the report also identifies Calgary as a city where permitting timelines, service coordination, and administrative burden can materially affect the economics and timing of projects. As a result, while Calgary may support HRRP activity, its growth potential appears more constrained than Vancouver, Toronto, or Edmonton. The city may therefore be better suited to a measured, staged, or hybrid model rather than an assumption of immediate scale.

Edmonton

Edmonton emerges as one of the stronger non-coastal markets examined in this study. It offers a meaningful and growing supply of homes slated for demolition and is situated near a significant on-reserve population base. From a supply-and-demand perspective, this makes Edmonton one of the more promising western Canadian markets outside the Lower Mainland. At the same time, home movers interviewed suggest that service coordination, rigid administrative requirements, and constraints related to trees and other urban conditions may reduce the practical number of feasible moves and increase costs. Edmonton therefore appears strong in principle with considerable room for improvement subject to more predictable and facilitated municipal and utility processes.

Hamilton

Hamilton appears to be the weakest stand-alone market of the seven cities considered. Demolition activity is the lowest and most stable among the jurisdictions examined, and the report continues to suggest that Hamilton on its own would be a less attractive market for an HRRP operation. That said, Hamilton's location within the broader southern Ontario region means it may still have strategic relevance as part of a larger operating geography anchored by stronger neighbouring markets. Its role, therefore, may be regional rather than independent. On a stand-alone basis, however, the evidence does not suggest sufficient scale to support a robust HRRP model.

Toronto

Toronto remains one of the strongest candidate markets for the HRRP model because it combines scale, redevelopment pressure, regional relevance, and comparatively workable operating conditions, although not without important constraints. The city has one of the largest and most sustained supplies of homes slated for removal, giving it the depth of pipeline needed to support ongoing operations even after accounting for the reality that only a portion of homes will be practically relocatable. It is also situated within a southern Ontario context where nearby First Nations housing needs are significant, meaning Toronto has the potential to function as an important long-term source market within a broader regional strategy. From a technical and policy perspective, Toronto appears more workable than some jurisdictions because it has a clear oversized-load permitting framework and relatively straightforward escort requirements, although moving homes through a dense urban environment still presents challenges related to traffic, utilities, tree protections, and shrinking move corridors. Overall, Toronto appears to be one of the leading HRRP markets in the study, not simply because of high supply, but because it combines scale, regional strategic value, and a policy environment that appears workable enough to support sustained activity, provided projects are carefully selected and matched to community-defined needs and implementation conditions.

Ottawa

Ottawa presents moderate but secondary potential for the HRRP model. Demolition activity is projected to increase gradually, indicating some opportunity, and the city appears to offer a relatively clear and timely permitting framework compared with certain western jurisdictions. However, Ottawa does not present the same scale of supply as Toronto, Vancouver, or Edmonton, and its role appears more limited in terms of long-term operating volume. As with Calgary and Victoria, Ottawa may support targeted or selective HRRP activity, but the evidence does not suggest the same level of capacity for sustained scale. Its viability is likely to depend heavily on careful project selection, predictable approvals, and the ability to aggregate enough suitable homes over time.

Overall, the findings support a tiered conclusion. Vancouver and Toronto appear to be the strongest source markets for sustained or larger-scale HRRP activity. Edmonton also appears strong, though more exposed to procedural barriers that may limit its practical performance. Calgary, Victoria, and Ottawa appear feasible but more conditional, with narrower operating margins and greater sensitivity to coordination, project volume, and regional strategy. Hamilton appears weakest as a stand-alone market, though it may still have a supporting role in a broader southern Ontario model. Across all seven cities, however, the report now points to the same central conclusion: the success of the HRRP model depends not only on urban demolition supply, but on the ability to translate that supply into deliverable, community-supported housing outcomes through direct partnership, careful matching, and supportive implementation conditions.

10. Recommendations

10. Recommendations

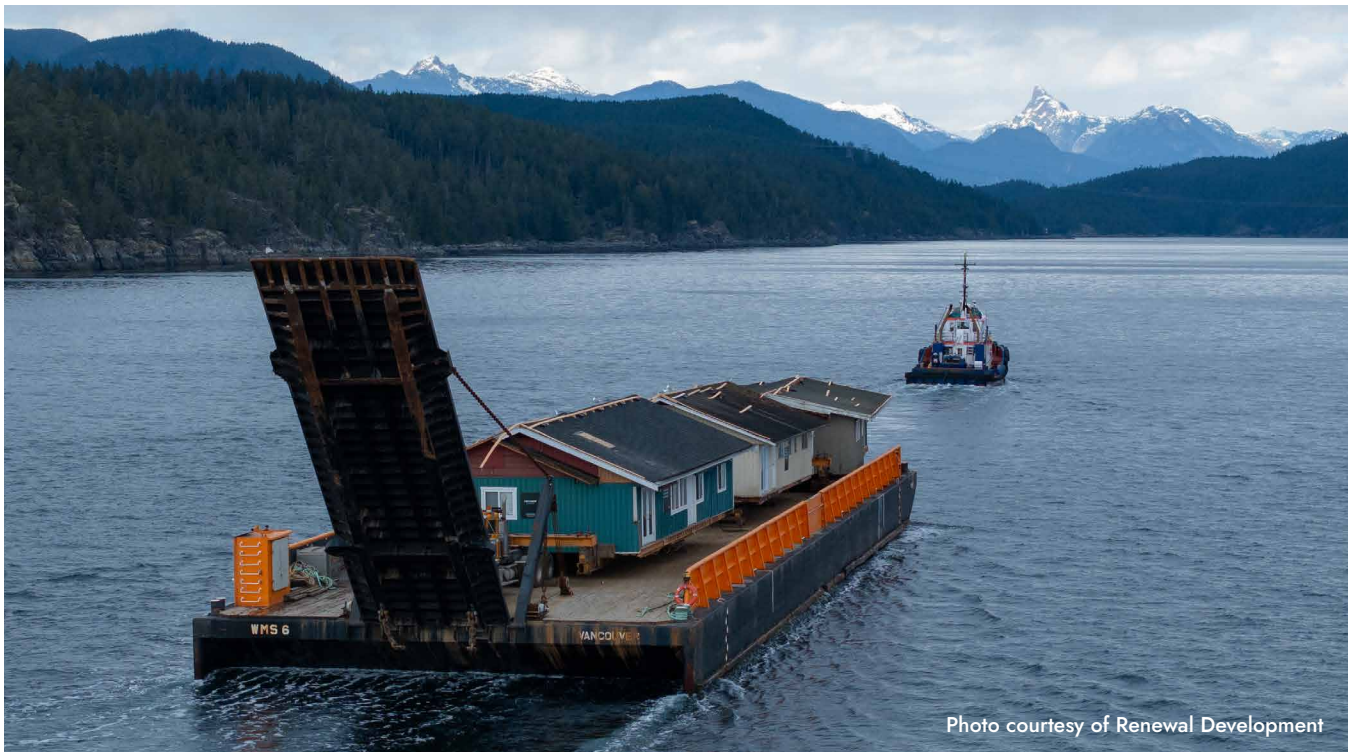


Photo courtesy of Renewal Development

Figure 33: Homes being relocated to the shíshálh Nation

While the study confirms the viability of the HRRP model in most of the target urban centres, current operating environments make it unnecessarily costly and cumbersome. Specific policies are needed to streamline the process, reduce associated costs and timelines in order to make it a more attractive option for developers and to rapidly scale the program as an affordable housing solution.

While a market study of this nature traditionally does not make recommendations, this exercise is also intended to serve as a knowledge sharing exercise, identifying gaps in existing policy and infrastructure that undermine the operationalization and institutionalization of home relocation and retrofitting as part of an affordable and sustainable housing strategy. Based on the study's findings, 16 recommendations applicable are set out below organized under five categories: definitions & data, education & outreach, urban management & infrastructure, financial & economic incentives, and regulation. The recommendations apply to all seven target urban centres unless otherwise indicated.

Definitions & Data

1. Treat existing homes as a resource, not as waste.

Policy [municipal]: Applying a circular economic lens and following the precedent set by provincial Building Codes, existing homes should be viewed as a resource and addressed under municipal building bylaws as part of a "responsible building retention" strategy along with other end-of-life options including infill and deconstruction.

Rationale: Existing structures are currently treated as waste and addressed under municipal solid waste management bylaws referencing "demolition" and "recycling" in their titles. The City of Richmond amended its Building Regulations Bylaw No.7230 in May 2019 to add section 5.4.3 enabling salvage of building materials in properties where a building-permit for salvage has been issued. The Home Moving & Salvage Program established pursuant to this bylaw encourages homeowners to first list the house for moving (i.e., relocating the structure intact) or for salvage of materials.

2. Expand the definition of "net zero carbon"

Policy [federal/provincial/municipal]: Expand definitions of "net zero carbon" in climate and housing policy to include embodied carbon and recognize the carbon savings associated with relocating and retrofitting existing homes.

Rationale: In the context of construction, climate policy has been focused on reducing operational carbon only. Carbon policy that does address embodied carbon (i.e. carbon associated with the energy required to extract, refine and manufacture materials) applies only to large federal projects and large projects in select major cities[110], even though embodied carbon accounts for approximately one-third of all GHG emissions associated with the construction sector. Consequently, the emission reduction benefits associated with relocating existing homes is not accounted for in typical emissions assessments tied to housing policy.

3. Enhance data tracking of homes slated for removal

Policy [federal/municipal]: Coordinate robust and standardized data tracking frameworks for homes slated for removal tied to permitting processes to ensure complete and consistent reporting.

Rationale: Municipalities keep detailed records of building permits. In contrast, demolition permit data is poorly maintained, limited and inconsistent across jurisdictions. This is understandable given that existing homes slated for removal are considered waste with no inherent value and an obstruction to new development. However, this makes it difficult to accurately track the supply of homes for relocation and to assess associated economic, social and environmental benefits.

Education & Outreach

4. Provide industry stakeholders with information early through permitting process

Policy [municipal]: Municipalities can develop educational materials highlighting the potential value of existing structures and encouraging developers to connect with organizations involved with the relocation and retrofitting of homes. Materials should also detail the benefits and incentives associated with home relocation, including tax credits and expedited permitting where offered, and explain the process involved with moving homes.

Rationale: The time at which a builder pulls a permit is a key opportunity to provide information about new policies and practices, and provides an opportune moment to engage with the construction sector about home relocation. Examples include the City of Richmond's brochures explaining their Demolition, Moving or Salvage Program, Metro Vancouver's *Construction and Demolition Waste Reduction and Recycling Toolkit*, and the Regional District of Nanaimo's *Construction Waste Best Practices Guide*. The City of Calgary's Playbook for moving oversized structures is unique, providing transparency in the process for facilitating a house move.[111]

110 See Toronto Green Standard Version 4 (Mid to High-Rise Residential and Non-Residential); Vancouver Building By-law, Section 10.4 (Low Carbon Materials and Construction) and accompanying Embodied Carbon Guidelines. October 18, 2023.

111 City of Calgary. *The Playbook: How to Arrange for a Coordinated Over-dimensional Load Move within the City of Calgary*.

Urban Management / Infrastructure

5. Streamline procedures for infrastructure and service support and approvals

Policy [provincial/municipal]: Provincial and municipal governments should work together to provide more streamlined and predictable processes to facilitate house moves, including mandating the cooperation of utility companies and transit authorities with transparent and predictable pricing.

Rationale: Various costs associated with relocating homes could be mitigated by better communication and coordination between house moving companies, local governments and utilities, transit authorities and the like.

6. Establish a national training program and registry of certified house-moving firms

Policy [federal]: Establish a national registry of certified house-moving firms with trained crews to enhance trust in the industry. Industry associations could collaborate with trade colleges/ polytechnics to develop certified programs in house-moving/structural relocation (rigging, crane & transport, route engineering, utility coordination, heritage salvage) and municipalities could recognise these certifications in their permit processes (e.g., faster reviews for qualified firms) as a way to incentivise training.

Rationale: Structural moving companies have noted that an independent training framework would add legitimacy to the industry and provide confidence to developers looking at relocation as an option for removing existing structures. Providing assurances through training and certification could support more streamlined relocation permit application processes.

7. Preserve and enhance move corridors

Policy [municipal]: Preserve and enhance move corridors within cities.

Rationale: As urban centres densify, it becomes increasingly challenging to access homes. Overhead wires, street lights, trees, meridians and other urban infrastructure make moving logistics more challenging. Cities rarely lock in designated house-moving corridors in their own transportation plans, even though heavy-haul and emergency-evacuation thinking provides a clear blueprint for doing so.

8. Review approach to permitting tree trimming/pruning

Policy [municipal]: Consider the application of policy governing tree management to align house moving and tree preservation objectives.

Rationale: Municipal policy grants cities discretion on whether or not to allow tree trimming/pruning. While such discretion is needed, it also can prevent house moving. There are strong arguments that a relocated home ultimately offsets the loss of trees by avoiding the use of virgin lumber from other trees in new construction. An objective assessment is needed of the trade-offs between urban planning and preservation of urban foliage for shade on one hand, and house preservation, waste mitigation, and embodied carbon retention on the other. From an urban planning perspective, where smaller or less mature trees are desired, municipalities could consider employing root containment systems that allow trees to be temporarily relocated with relative ease.

Financial / Economic Incentives

9. Refundable Demolition Deposit

Policy [municipal]: Following several BC jurisdictions, municipalities should require a refundable demolition deposit for all single-family homes. This deposit is returned if the applicant demonstrates the home was managed in the manner identified in a home removal assessment (see recommendation 12 below). The deposit should be sufficiently large to discourage demolition and only be kept if the applicant does not comply with the terms of the home removal assessment. Forfeited deposits should be allocated to activities that promote and support home demolition prevention, e.g. creating physical storage for home relocation and deconstruction service providers, providing training programs, supporting the work of industry associations like the ***Building Relocation and Deconstruction Association***, and other initiatives supporting a transition away from conventional demolition.

Rationale: In conjunction with a requirement to assess homes slated for removal (see recommendation 12 below), demolition deposits provide a financial incentive for the applicant to implement the most responsible removal solution and are proven to reduce demolition. For example, the City of Victoria imposes a $19,500 refundable demolition deposit tied to a 40kg salvage requirement per above-ground square meter of floor area on all homes built prior to 1950.[112] The District of North Vancouver requires homes built prior to 1940 be deconstructed with a minimum salvage requirement of 3.5kg or 2.6 board feet of reclaimed lumber per square foot of finished floor space in order for the deposit to be refunded.[113]

10. Offer tax incentives to encourage the relocation of existing homes

Policy [federal/provincial/municipal]: Implement financial incentives (e.g., income tax exemptions, investment tax credits) to encourage developers and homeowners to relocate homes. Fixing the tax treatment influencing home relocation would show strong leadership in support of an affordable and sustainable housing strategy.

Rationale: Currently, there are insufficient incentives to encourage industry to prioritize the relocation (or deconstruction) of homes over demolition. Property owners can obtain charitable tax credits for the fair market value of the home and developers can avoid waste disposal costs by donating a home to a home moving company, however most financial incentives favour demolition, including non-compliance with rules governing abatement and proper treatment of demolition waste due to a lack of enforcement, and the externalization of long-term costs associated with landfill management and greenhouse gas emissions. Moreover, house moving companies must cover all servicing costs, which can represent as much as 25 per cent of relocation costs, while demolition companies do not incur these additional charges.

There are a range of precedents at federal, provincial and local levels that could be aligned to support home relocation. The Federal government recently eliminated the Goods and Services Tax (GST) from new rental apartment projects and co-ops which is estimated to have kickstarted the construction of up to 300,000 new homes.[114] The federal government's *Multigenerational Home Renovation Tax Credit* provides a refundable tax credit for certain renovation expenses to create a self-contained secondary unit that allows a senior or an adult who is eligible for the disability tax credit to live with a qualifying relative.[115] Both policies could be expanded to relocated homes where there is a transfer of ownership.

112 City of Victoria. Demolition Waste and Deconstruction Bylaw No.22-062, s.3(1)(b).

113 District of North Vancouver. Demolition Waste Reduction Bylaw 8582, s.4.1.

114 Department of Finance. December 15, 2023. "Affordable Housing and Groceries Act receives Royal Assent to build more rental homes and help stabilize grocery prices" (News Release).

115 Government of Canada. Multigenerational home renovation tax credit (MHRTC) : Personal income tax.

The New Residential Rental Property tax rebate incentive that provides landlords a rebate on the provincial (and federal) tax paid on new housing, or substantially renovated existing housing purchased in B.C. for rental purposes, could be expanded and offered for relocated homes that are repurposed as long-term rental housing.[116]

Similarly, municipal tax policy could be extended to incent home relocation, such as the City of Victoria's permissive tax exemption policy that offers exemptions to certain special needs and supportive housing properties if they meet specified eligibility criteria, or the City's tax incentive program that offsets seismic upgrading costs for eligible downtown heritage-designated buildings being converted into residential units.

11. Treat home relocation as a "modern construction method" under Build Canada Homes Investment Policy Framework as a legitimate method to support affordable social housing.

Policy [federal]: Build Canada Homes should recognize relocated homes as a 'modern construction method' akin to factory-built or modular construction. Additionally, BCH should provide a funding stream to support development of modern construction methods and technologies.

Rationale: Build Canada Homes' new Investment Policy Framework[117] is focused on employing 'modern construction methods' to build social and mixed-income housing on federal lands. Thus far, the government has defined 'modern construction methods' to include methods such as mass timber, modular and factory-built housing. Moreover, the Framework offers only "pull" procurement strategies, with no complementary "push" supports for industry.

Regulation

12. Increase policy alignment

Policy [federal/provincial/municipal]: In general, governments should work together to remove unnecessary policy barriers to relocating homes and increase policy alignment where possible.

Rationale: For home relocation and retrofitting to become a scalable affordable housing solution, policy alignment (across building code, land use, transport permitting and financial/affordability supports) will need to improve.

13. Responsible Building Removal Assessment

*Policy [municipal]***:** Municipalities should require all homes slated for removal to undergo a pre-demolition assessment, as part of the development permit (DP) or building permit (BP) application, to assess whether a home slated for removal is a viable candidate for relocation or deconstruction.

Rationale: Typically, homes slated for demolition are only identified once the demolition permit is pulled, which is often too late to save it. A responsible removal assessment puts the responsibility on the demolition/building permit applicant, ***as early in the redevelopment process as possible***, to contact a responsible building removal company, not the other way around.

London, England has an established Circular Economic Statement that includes a pre-demolition audit requirement for all referred projects.[118] Auckland's City Council (New Zealand) required all homes damaged by Cyclone

116 Government of Canada. GST/HST New Residential Rental Property Rebate.

117 Government of Canada. *Build Canada Homes Investment Policy Framework. November 2025*.

118 Greater London Authority, London Plan Guidance: Circular Economy Statements (March 2022), s.4.6.

Gabrielle to be assessed for relocation or deconstruction. The federal government's Directive on the Management of Real Property directs all managers of real property to "limit the negative environmental impact of real property in a way that is consistent with the government's sustainable development objectives," including minimizing waste production.[119] Many of the target municipalities in this study require other assessments during the permitting process, providing strong precedent for a pre-demolition assessment requirement. Calgary and Edmonton both require an asbestos assessment and hazardous materials identification report to be completed for any home older than 1990, which affords an opportunity to integrate a general assessment to determine relocation eligibility. Both Toronto and Hamilton have "Demolition Permit Application Checklists" that include a detailed section on environmental considerations; a pre-demolition environmental screening mechanism that can trigger a mandatory environmental building audit. Similarly, several municipalities require post-demolition inspections setting a clear precedent for a pre-demolition assessment.

The Building Relocation and Deconstruction Association of BC offers a template Responsible Building Removal Assessment form.

14. Early Green Removal Permits

Policy [municipal]: Provincial directives directing municipalities to streamline building permitting processes should not apply to requirements associated with the removal of existing structures. Allow all homes to be relocated or deconstructed any time before the building permit is issued through an Early Green Removal Permit. The Permit is best structured as a separate and stand-alone removal permit application and process that is granted once a home assessment is completed and relocation and/or deconstruction are identified as viable options.

Rationale: Most municipalities do not allow the removal of a structure before a building permit is issued creating a time crunch situation where as soon as the building permit is issued the applicant seeks the easiest and fastest way to get rid of the home. The Early Green Removal incentivizes sustainable, low-carbon removal options (i.e., relocation or deconstruction) by providing the ability to initiate the removal process earlier.

Early Green Removal Permits also help reduce risks associated with empty homes. Many single-family homes being boarded and left vacant for weeks (and often months or years) which become a magnet for break-ins, squatting, theft, vandalism and fires. The Early Green Removal Permit provides an opportunity and incentive for the developer to relocate or deconstruct the home instead of letting it sit unoccupied while they wait for their final building permit approval.

The District of North Vancouver is currently piloting an Early Green Removal permit process.

15. Municipal Building Removal Procurement Standards

Policy [municipal]: All levels of government should update their own demolition procurement criteria for public projects. Whenever any public or publicly-funded project involves removal of existing structures, the building removal tender criteria should prioritize relocation and then deconstruction over demolition.

Rationale: Government should be leading by example. This policy lens would ensure publicly-owned or financed projects with existing structures are treated in the same manner as privately-owned buildings and provide a strong driver to support the expansion of a building relocation market.

Portland's deconstruction ordinance mandates deconstruction for city-owned buildings constructed in 1916 or earlier, or designated historic resources, to salvage materials and reduce landfill waste. The City of Halifax

119 Government of Canada. Directive on the Management of Real Property.

mandated deconstruction of the Cogswell Interchange, a municipally-owned structure, to facilitate material recovery and sustainable redevelopment. Parks Canada has "alternative use" assessment criteria for heritage and character buildings slated for removal which prioritizes relocation and high material salvage.[120]

16. Elevate Building Code guidance treating relocated homes as 'existing homes'.

Policy [provincial]: Elevate the guidance on relocated homes to a code provision to avoid confusion regarding how relocated homes should be treated. Additionally, provincial building codes should adopt the heritage relaxation chart in Part 9 of the Model Federal Building Code which recognizes that relocated homes should be held to a different standard because of the benefits of preserving embodied carbon and providing an affordable housing solution.[121]

Rationale: Relocating a house may trigger upgrade obligations (e.g., foundation, seismic, insulation, fire separation) depending on building code, local building-department interpretation or site conditions. Non-enforceable guidance in provincial building codes recognizes relocated homes as "existing homes" for the purposes of identifying necessary code upgrades.[122] However, building departments and building inspectors often treat relocated homes as new construction, erroneously requiring full code upgrades.

120 Parks Canada. March 7, 2013. Cultural Resource Management Policy, s.7.2.1(c).

121 The Canadian Board for Harmonized Construction Codes has signalled that that embodied carbon provisions will be considered in the 2030 Federal codes review.

122 Building and Safety Standards Branch. Information Bulletin: Relocated Buildings. April 2, 2024. The Building Code still applies to alterations, site preparation, foundations, connections to services and life-safety elements.

Appendices

Appendix A: Detailed methodology for calculating supply

Supply

Calculating Demolition Rate

The demolition rate for single-detached dwellings was calculated as the ratio of the number of single-detached units demolished in a given year compared to the estimated number of single-detached homes in the target urban centre for that same year. Annual counts of demolished single-detached dwellings were compiled from monthly municipal demolition permit data for the period 2018–2025.[123] In contrast, housing stock figures were obtained from the Canada Mortgage and Housing Corporation (CMHC)'s *Housing Market Information Portal*[124] for census years (2006, 2011, 2016, and 2021).

To generate annual housing stock estimates, a two-step approach was applied:

1. Interpolation of Census-year stock values (2006–2021):

   The cubic spline interpolation was used to estimate missing annual stock values between Census years. This method was selected because it avoids overshooting between data points while preserving the local trends observed from 2016 to 2021.

2. Projection beyond the last Census year (2022–2025):

   To extend the housing stock series beyond 2021, a simple linear model was fit to the most recent Census interval (2016–2021). This model was then used to project annual single-detached housing stock for 2022–2025.

Using the interpolated and projected stock estimates, annual demolition rates were calculated for 2018–2025.

Forecasting Number of Demolitions

This study forecasts annual single-detached home demolitions in seven selected municipalities for the period September 2025 to December 2035, using observed demolition-permit data from January 2018 through August 2025.

First, a set of external economic and market drivers that may influence demolition activity was identified. These drivers include housing starts, the New Housing Price Index (NHPI), the New Condominium Apartment Price Index (NCAPI), the Building Construction Price Index (BCPI), the Bank of Canada target rate, and population. These indicators were selected because they represent key determinants of redevelopment activity. Housing starts reflect development demand; NHPI, NCAPI, and BCPI capture changes in construction and housing market conditions; the target rate influences borrowing costs and redevelopment financing; and population growth signals long-term housing demand pressures. Note that the drivers considered do not include policy drivers, such as rezoning and transit-oriented development, which is common to most of the target urban centres and will likely result in a further increase in the number of existing homes removed.

123 Statistics Canada. Table 34-10-0292-01 Building permits, by type of structure and type of work (x 1,000)

124 CMHC. Housing Market Information Portal.

Item	Data reporting frequency	Reference period
Number of dwelling-unit demolished[125]	Monthly	Jan 2018 – Sep 2025
Housing starts[126]	Monthly	Jan 1990 – Oct 2025
New Housing Price Index (NHPI)[127]	Monthly	Jan 1981 – Oct 2025
New Condominium Apartment Price Index (NCAPI)[128, 129]	Quarterly	2017 Q1 – 2025 Q3
Building Construction Price Index (BCPI)[130, 131]	Quarterly	2017 Q1 – 2025 Q3; 2023 Q1 – 2025 Q3 (Victoria only)
Target rate[132]	Monthly	Dec 1992 – Dec 2025
Population	Annual[133, 134]	Jul 2017 – Jul 2024 (Estimates) Jul 2024 – Jul 2036 (Projection)

Table 7: Summary of data inputs and reference periods for demolition forecasting model

Second, an appropriate statistical approach was selected to conduct the forecasting. For the forecast of single-detached demolitions, several time-series methods were assessed, including ARIMA (Autoregressive Integrated Moving Average), ETS (Error—Trend—Seasonality), and multiple linear regression. Although ARIMA and ETS are effective for capturing temporal patterns, multiple linear regression was chosen for forecasting demolitions because the study requires incorporating external economic drivers directly into the model. Regression allows these drivers to be explicitly included and yields interpretable relationships between each factor and demolition activity, supporting policy-relevant analysis. Diagnostic testing also indicated that seasonal and autoregressive components could be accommodated within the regression structure, reducing the risk of overfitting given the relatively short time series.

In addition to forecasting demolition activity, the study also required generating forward-looking estimates for the external drivers used in the regression model. Different forecasting approaches were applied depending on the characteristics and availability of each data series.

125 See footnote 1.

126 See footnote 2.

127 Statistics Canada. Table 18-10-0205-01 New housing price index, monthly

128 Statistics Canada. Table 18-10-0273-01 New condominium apartment price indexes, by census metropolitan area

129 NCAPI is not available for Hamilton.

130 Statistics Canada. Table 18-10-0289-01 Building construction price indexes, by type of building and division

131 BCPI is not available for Hamilton.

132 Statistics Canada. Table 10-10-0139-01 Bank of Canada, money market and other interest rates

133 Statistics Canada. Table 17-10-0155-01 Population estimates, July 1, by census subdivision, 2021 boundaries

134 Statistics Canada. Table 17-10-0162-01 Projected population for census divisions and census subdivisions, 2021 boundaries, by projection scenario, age and gender, as of July 1

For housing starts, NHPI, NCAPI, and BCPI, the ETS model was selected. These variables exhibit identifiable trend and, where applicable, seasonal patterns and primarily evolve according to their own historical trajectories. ETS provides a robust, data-driven method for projecting such indicators and adapts effectively to shifts in level or growth rates, making it well suited for long-term economic forecasting. In terms of data preparation, NHPI and housing starts are reported at a monthly frequency and therefore required no temporal disaggregation. In contrast, NCAPI and BCPI are available only at a quarterly frequency. To align these series with the monthly modelling framework, quarterly values were converted to monthly values by assigning each quarterly observation uniformly across the corresponding three months (e.g., Q1 values applied to January, February, and March).

For the City of Victoria, BCPI data were available only for the period 2023 Q1 to 2025 Q3. To construct a complete historical series, a linear regression model was developed using both British Columbia's provincial BCPI and Vancouver's BCPI as explanatory variables. This model was estimated over the overlapping period and used to impute Victoria's BCPI for 2017 Q1 to 2022 Q4, producing a continuous quarterly BCPI series for Victoria beginning in 2017. Once the historical series was completed, an ETS model was applied to forecast Victoria's BCPI for the post-2025 Q3 period through 2035, consistent with the forecasting approach used for other economic drivers. This two-step approach ensured historical completeness while leveraging both regional construction cost dynamics and robust time-series methods for long-term projection.

Population forecasting for this report was based on two Statistics Canada datasets. The first dataset, "*Population Estimates, 2021 Boundaries*", provides annual population estimates for the seven municipalities from July 2017 to July 2024.[135] To align with the monthly reporting frequency of the demolition forecasting model, the annual population estimates were converted to monthly values using a natural cubic spline interpolation, which allows for smooth transitions between annual observations while preserving underlying population trends.

Population forecasts from 2025 onward were obtained from Statistics Canada's "*Projected Population for Census Divisions and Census Subdivisions, 2021 Boundaries*".[136] For this analysis, *Projection Scenario M1 (medium-growth)* was adopted, as it represents a balanced growth pathway commonly used in policy and planning applications. Annual projected population values under Scenario M1 were similarly expanded to monthly estimates using spline interpolation to ensure consistency across all model inputs. By using historical estimates and projections derived from a consistent geographic boundary framework, this approach improves methodological transparency and ensures alignment with Statistics Canada's most recent and authoritative demographic outlook.

For the target rate, a hybrid forecasting approach was adopted. Industry and financial-sector consensus forecasts[137] were used to project the target rate through 2030, reflecting short-term expectations informed by expert judgment and market conditions. Beyond 2030, an ETS model was used to extend the series to 2035, providing a statistically consistent long-term projection once external industry forecasts were no longer available. This combined method balances expert insight with formal time-series modelling.

135 See footnote 11.

136 See footnote 12.

137 WOWA.ca. Canada Mortgage Interest Rate Forecast: 2025-2030

Item	Forecast model	Data cleaning/preparation
Number of dwelling-unit demolished	Multiple linear regression	N/A
Housing starts	ETS	Reported at monthly frequency; no temporal disaggregation required
New Housing Price Index (NHPI)	ETS	Reported at monthly frequency; no temporal disaggregation required
New Condominium Apartment Price Index (NCAPI)	ETS	Quarterly values expanded to monthly by assigning each quarterly value uniformly to the corresponding three months (e.g., Q1 = January–March)
Building Construction Price Index (BCPI)	ETS (all cities), plus linear regression for Victoria (historical reconstruction)	Quarterly values expanded to monthly using uniform assignment. For Victoria, BCPI for 2017 Q1–2022 Q4 estimated using a linear regression model with BC provincial BCPI and Vancouver BCPI as predictors.
Target rate	Industry forecasts (to 2030) + ETS (2030–2035)	N/A
Population	StatsCan population estimates and projections (2021 boundaries; Projection Scenario M1 – medium growth)	Annual population estimates and projections expanded to monthly using natural cubic spline interpolation

Table 8: Forecast models and data preparation methods for all variables

Housing Stock by Vintage

The SFD housing stock by vintage for the selected municipalities was obtained from the 2021 Census *Dwelling condition by tenure* dataset.[138] It should be noted that these data are derived from the 25% Census sample and therefore represent a sample-based estimate of the housing stock.

138 Statistics Canada. Table 98-10-0233-01 Dwelling condition by tenure: Canada, provinces and territories, census divisions and census subdivisions

Key Statistical Parameters for Demolition Forecasting Models

City	R^2	Standard Error	Model p-value	Overall Model Significant?
Victoria	0.0412	5.37	0.7171	No
Vancouver	0.3409	35.44	2.06e-06	Yes
Edmonton	0.2745	14.76	8.54e-05	Yes
Calgary	0.5827	12.06	1.66e-14	Yes (strong)
Hamilton	0.0240	5.76	0.7064	No
Toronto	0.1124	76.79	0.1055	No
Ottawa	0.1664	12.89	0.0137	Yes

Notes

Model significance refers to the statistical significance of the overall regression model (F-test), not individual explanatory variables, evaluated at $\alpha = 0.05$.

R^2 values indicate the proportion of variation in monthly demolitions explained by the selected external drivers. Model fit varies substantially across cities, reflecting differences in redevelopment dynamics and data structure.

The standard error represents the typical magnitude of model residuals and provides an indication of forecast uncertainty; larger values reflect greater volatility in monthly demolition activity.

Appendix B: Building specifications for cost comparisons

Building Element[139]	Costing Assumptions
Size	1,300 sq ft
Rooms	3 bedrooms
Bathrooms	1.5
Foundations / Excavation	*Do not include*
Lowest Floor Structure	Concrete slab-on-grade, insulated, radon rough-in
Exterior Cladding Assembly	Cementitious cladding panel, outboard rigid insulation
Insulation	Attic: R-40, Floor: R-28
Windows & Doors	Residential grade windows and doors, double glazed.
Sloped Roof Covering	Asphalt shingles, roof assembly (for relocated homes assume minimum 10 years of life remaining)
Flat (Terrace) Roof Covering	Modified bitumen membrane, roof assembly
Non-combustible construction	Non-combustible assemblies
Interior partitions	Wood stud (2x6) and gypsum board partitions
Interior Finishes, Doors, Millwork, and Fittings	Mid-range residential finish quality
Plumbing & Drainage	All necessary residential quality piping and fixtures
Electrical, Lighting, Devices	200A panel board and feeder connections, typical residential controls and light fixtures
HVAC Systems	Base option. Includes air source heat pump, electric baseboard heaters, and electric domestic hot water tank. Each bedroom and the living room have a heating and cooling system.
Appliances	Five mid-range appliances (no more than 5 years old for relocated homes)
Cabinetry	For relocated homes, retained or refinished existing cabinets in good condition.
Countertops	Laminate
Flooring	Laminate, tile in wet areas. For relocated homes, new flooring or existing flooring if in good condition.
Structural engineer report (snow load / integrity)	Site-specific stamped letter/report
Step Code documentation / blower door	Energy advisor; blower door testing; compliance documentation

139 Based on CMHC's "Cost of Delivering Housing in Canada" building elements structure.

The comparative methodology assumes several aspects are the same regardless whether the house is relocated, transported or constructed on site:

- The distance that the house, labour and/or building materials travel is 200km from the target urban centre (i.e., Vancouver, Victoria, Calgary, Edmonton, Toronto, Hamilton, Ottawa/Gatineau)
- Transport constraints are the same for a relocated home and modular home.
- The receiving site is serviced and foundations in place (i.e. services, excavation and foundation work completed.)
- Any permits associated with the site (e.g. building permits) have been secured.
- Pricing is based on first quarter 2026 estimates.
- Labour has to relocate for the duration of a build.

CMHC's evaluation of the Rapid Housing Initiative notes that modular can reduce schedule substantially, but reported cost impacts vary widely (some studies showing savings, some showing higher cost), and outcomes depend heavily on site-specific factors, manufacturing efficiency, and logistics/transport constraints.[140]

Inclusions and Exclusions

All direct general contractor and sub-contractor costs to construct the building, general conditions, and general requirements, including:

- Site Supervision
- Labourers
- Hoarding
- General Protection
- Tools
- Equipment
- Safety
- General construction supplies
- Progressive cleanup
- General liability insurance
- General contractor's overhead and profit fee

The following items are excluded from the cost estimates and should be considered by the user separately:

- HST
- Contractor bonding
- Cost of borrowing
- Legal fees

140 https://assets.cmhc-schl.gc.ca/sites/cmhc/about-cmhc/corporate-reporting/program-evaluation/2025/evaluation-rapid-housing-initiative-report-2025-en.pdf?rev=913a69f9-277b-4417-9950-b9edd9a15085&utm_source=chatgpt.com

- Cost of land
- Contingencies (design, construction, bidding, project)
- Escalation (based on Q1-2025 data)
- Soft costs, overhead and profit for owner/developer
- Development / building permit, and other municipal permitting
- Development charges
- Demolition and site development
- Site servicing (water, sewer, electrical, natural gas)
- Hard and soft landscaping
- Alternate HVAC system options or enhanced accessible layouts shown on prototypical drawings

Appendix C: Renewal standard

renewal
DEVELOPMENT

Renewal Standard

Each Renewal Home is a snowflake.

Our rescued homes are unique in their layout, size, shape, age, condition, and character. To help standardize the finished product, and help match the pipeline of rescued homes to the Nation's expectations - while remaining within budget - we collaboratively pre-establish standard characteristics and features of our Renewal Homes with each Nation.

INCLUSIONS

Windows: All windows double pane or greater thermal protection.

Heating & Cooling: Each bedroom and living room will have a heating and cooling system.

Insulation: Ensure good condition attic insulation with a minimum 40 R-value. Ensure good condition floor insulation with a minimum 28 R-value, or conditioned crawl space.

Roofing & Gutters: Estimate 10 years of lifetime remaining.

Appliances: All appliances and mechanical systems less than roughly 15 year old and in good working order.

Cabinets: Retained or refinished existing cabinets if in good condition.

Flooring: New flooring or preserved existing flooring if in good condition.

Painting: Fresh interior paint. Exterior and interior colour scheme determined at outset.

Siding: New vinyl siding or preserved siding if in good condition.

Structural Integrity: Structural engineer report provided confirming snow load suitability and structural integrity of building.

Renewal Home Guide provided.

NOT INCLUDED IN RENEWAL STANDARD: Structural changes to existing layout or floor plan, sprinklers, decks, blinds, window screens, addition of bedrooms/bathrooms.

Appendix D: Forecasted demolition by target urban centres

The following is a detailed assessment of forecasted demolitions for each of the seven target urban centres based on the forecasting methodology set out in Appendix E.

Hamilton

Single-detached dwelling demolitions in Hamilton have shown modest variability over the past seven years while projections suggest a gradual decline in demolition activity over the next decade, but remaining within the historical range of 134 to 206 demolitions annually (see Figure 34).

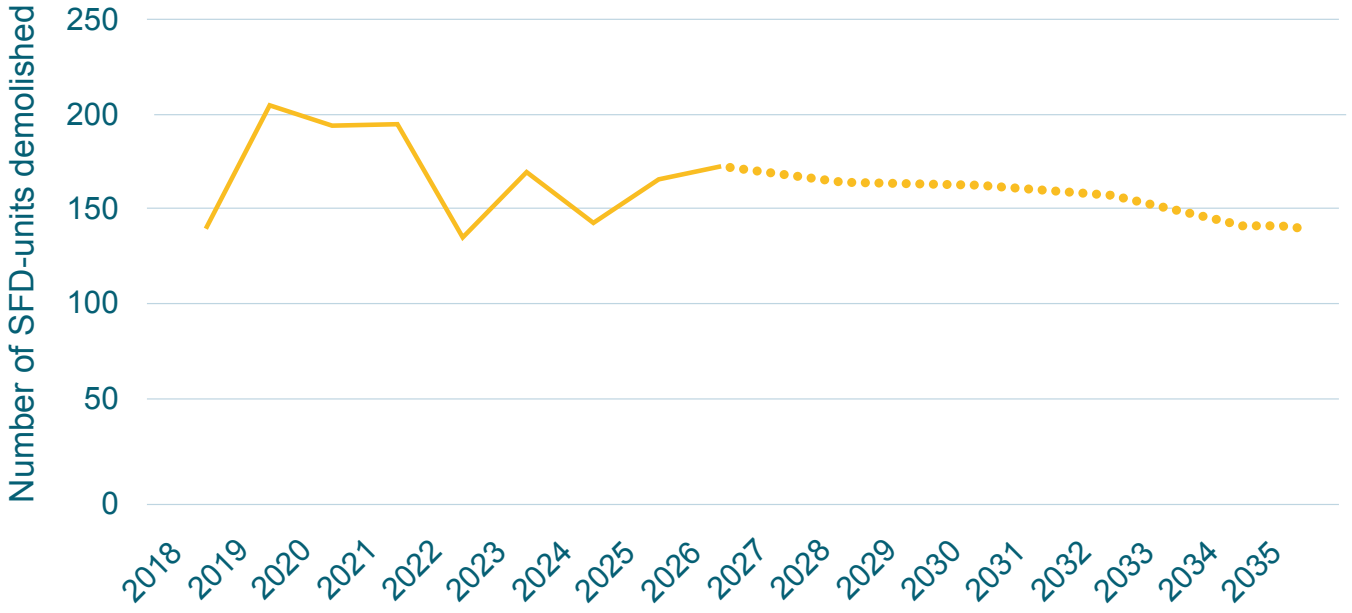


Figure 34: SFDs demolished annually: historical (2018–2025) and forecast (2025–2035), City of Hamilton

For Hamilton, demolition activity appears to be influenced more by local redevelopment decisions and project timing than by broader economic conditions. While the model incorporates key market and demographic indicators, these factors do not strongly explain month-to-month changes in demolitions. As a result, the forecast should be interpreted as a smoothed continuation of recent patterns, indicating a slight moderation in activity over time rather than a major structural shift.

Ottawa-Gatineau

Aside from a marked decline in demolitions in 2022 likely due to the affects of the COVID-19 pandemic, the number of demolitions in Ottawa-Gatineau have remained relatively constant over the past eight years ranging between 230-290 per year. The forecast indicates a moderate and steady increase in monthly demolition activity over the coming decade, remaining within annual norms.

Figure 35: SFDs demolished annually: historical (2018–2025) and forecast (2025–2035), City of Ottawa-Gatineau

In Ottawa, demolition activity appears to be influenced by a combination of redevelopment pressure and broader market conditions, though these factors explain only part of the observed variation, with month-to-month changes influenced by local redevelopment timing and project-specific decisions.

Toronto

Historically, demolition activity in the City of Toronto has remained relatively stable ranging between 1,180-1,720 demolitions per year and a demolition rate of 0.46 - 0.83 per cent. However, the forecast indicates a steady increase in annual demolition activity over the next decade to more than double the historical average. The projected growth is gradual and sustained, without sharp accelerations, suggesting continued redevelopment pressure rather than episodic surges.

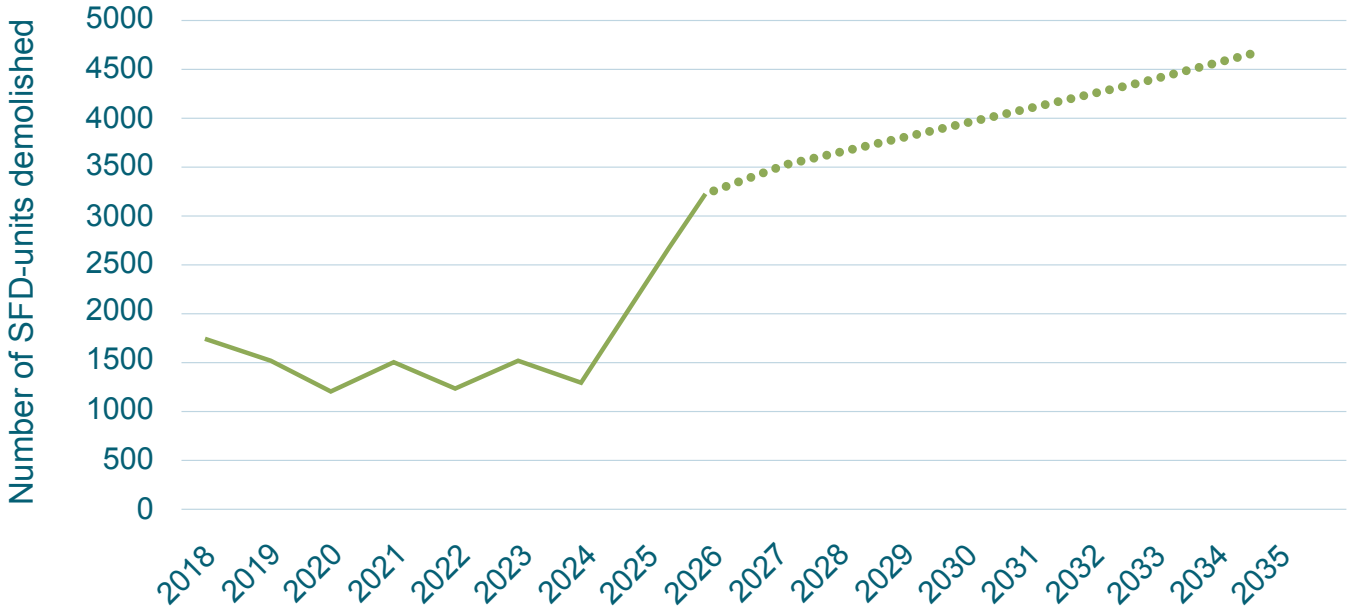


Figure 36: SFDs demolished annually: historical (2018–2025) and forecast (2025–2035), City of Toronto

In Toronto, demolition activity appears closely linked to broader redevelopment and construction cost conditions, particularly in a mature, land-constrained housing market. While the model does not capture all short-term fluctuations, especially large, one-off spikes, it indicates a clear longer-term upward trend consistent with ongoing intensification and replacement of single-detached housing. The forecast should therefore be interpreted as reflecting continued growth in baseline demolition activity, rather than predicting the timing or magnitude of individual large redevelopment events.

Calgary

Historical demolition activity in Calgary has been erratic, fluctuating noticeably over time, with periods of elevated demolitions followed by sharp slowdowns, including a pronounced dip in the most recent historical years. Overall activity appears closely tied to broader development cycles. The forecast projects a near-term increase in demolition activity, followed by a gradual decline over the remainder of the projection period. The projected pattern suggests a temporary rebound in redevelopment activity before moderating over the longer term.

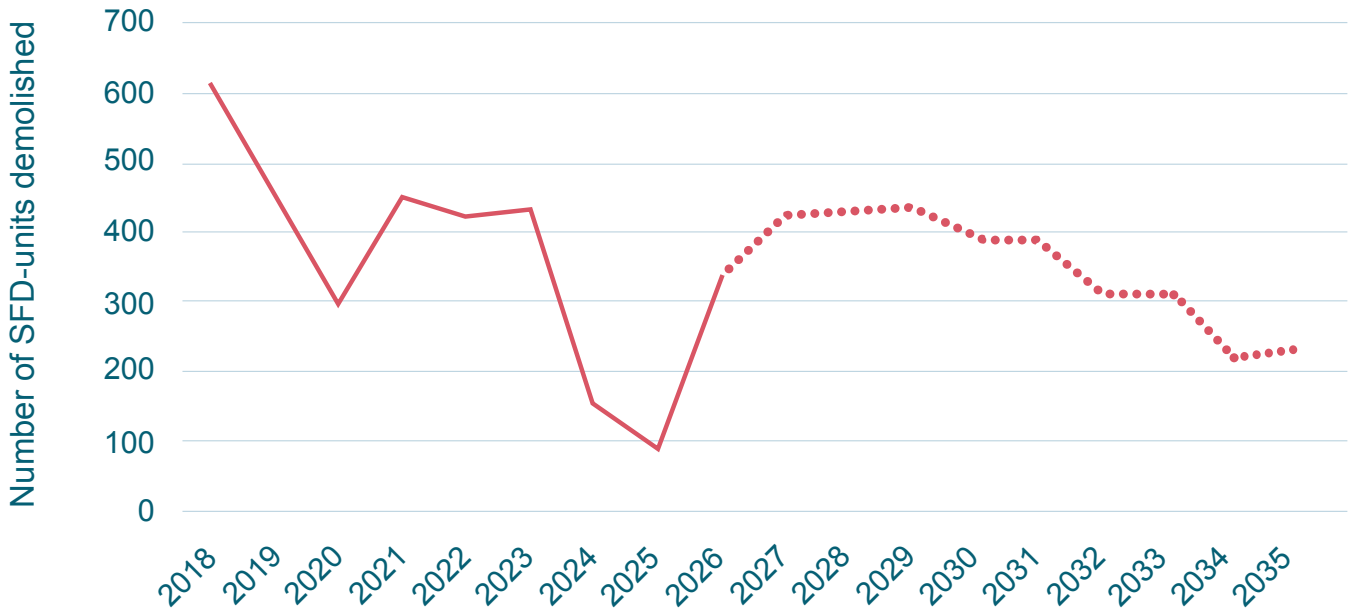


Figure 37: SFDs Ddemolished annually: historical (2018–2025) and forecast (2025–2035), City of Calgary

In Calgary, demolition activity appears closely linked to overall construction activity and financing conditions. Periods of higher housing starts are associated with increased demolitions, reflecting teardown-and-rebuild dynamics during stronger development cycles. The forecast indicates that while redevelopment activity may recover in the near term, it is expected to moderate over time as market conditions evolve. Overall, the projection reflects Calgary's more cyclical development pattern, rather than a sustained long-term increase in demolition activity.

Edmonton

The City of Edmonton has experienced an upward trend in demolition activity over the past eight years, particularly in the most recent years, although short-term fluctuations remain pronounced. The forecast projects a continued increase in demolition activity from just over 720 demolitions per year to more than 920 in 2035. Growth is steady rather than abrupt, suggesting a sustained increase in baseline redevelopment activity.

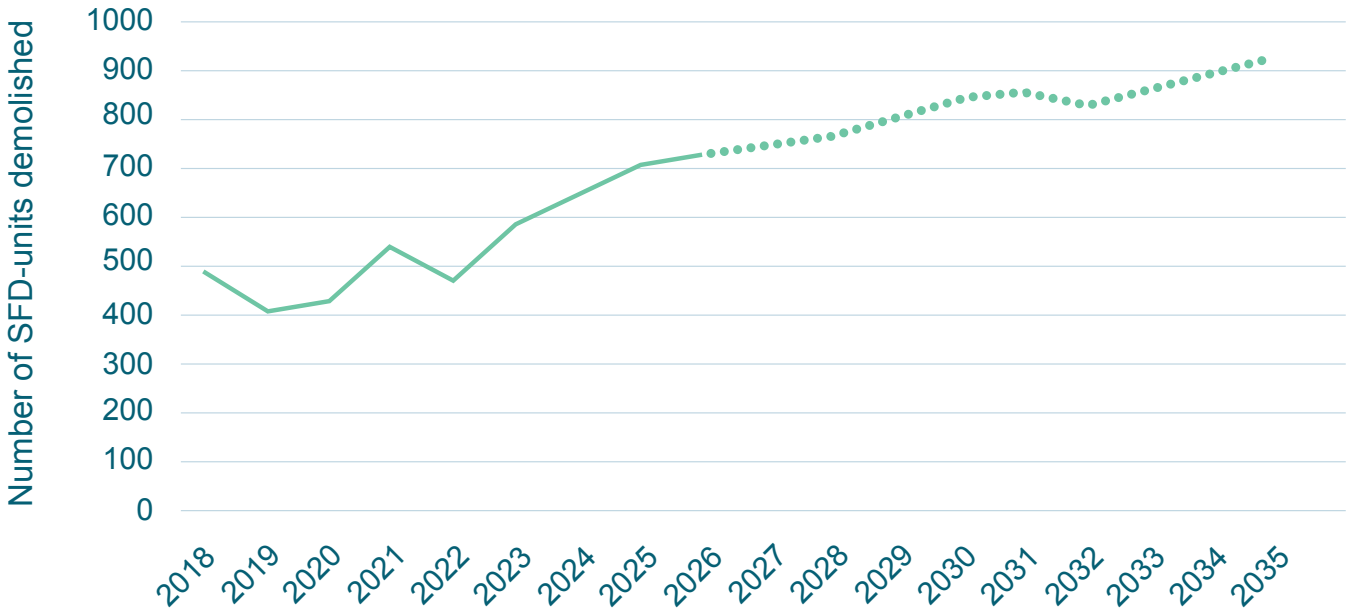


Figure 38: SFDs demolished annually: historical (2018–2025) and forecast (2025–2035), City of Edmonton

Vancouver

Averaging more than 1,900 demolitions per year, Vancouver has consistently had the highest annual number of demolitions per year and highest demolition rate of the seven target urban centres, reflecting persistent redevelopment pressure in a land-constrained urban environment. Forecasting projects a continued increase in monthly demolition activity over the next decade reaching just shy of 4,000 demolitions per year by 2035. Growth is gradual but sustained, with temporary plateaus and short-term fluctuations, indicating ongoing intensification rather than episodic redevelopment waves.

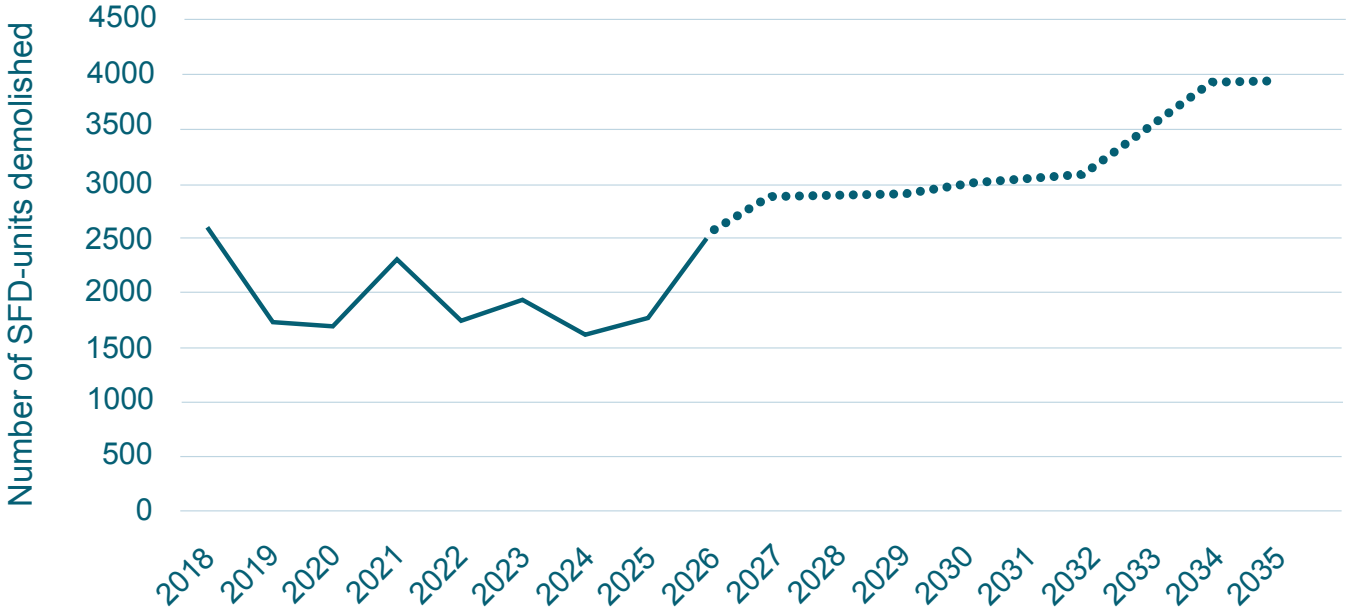


Figure 39: SFDs demolished annually: historical (2018–2025) and forecast (2025–2035), City of Vancouver

In Vancouver, demolition activity is closely associated with structural redevelopment dynamics, including high land values, limited greenfield supply, and continued pressure for densification. While short-term variation reflects project timing and market conditions, the forecast indicates a strong and persistent upward trajectory in baseline demolition activity. This suggests that replacement of single-detached housing is likely to remain a key component of Vancouver's housing evolution over the coming decade, rather than a temporary or cyclical phenomenon.

Victoria

While the City of Victoria has a relative small absolute number of demolitions compared to the other target urban centres, its demolition rate is significantly higher than average ranging between 2.1% and 3.0%, resulting in a higher yield of available homes for relocation. The forecast projects a moderate, but steady, increase in the number of homes demolished each year, increasing by more than 50% by 2035, after which growth levels off.

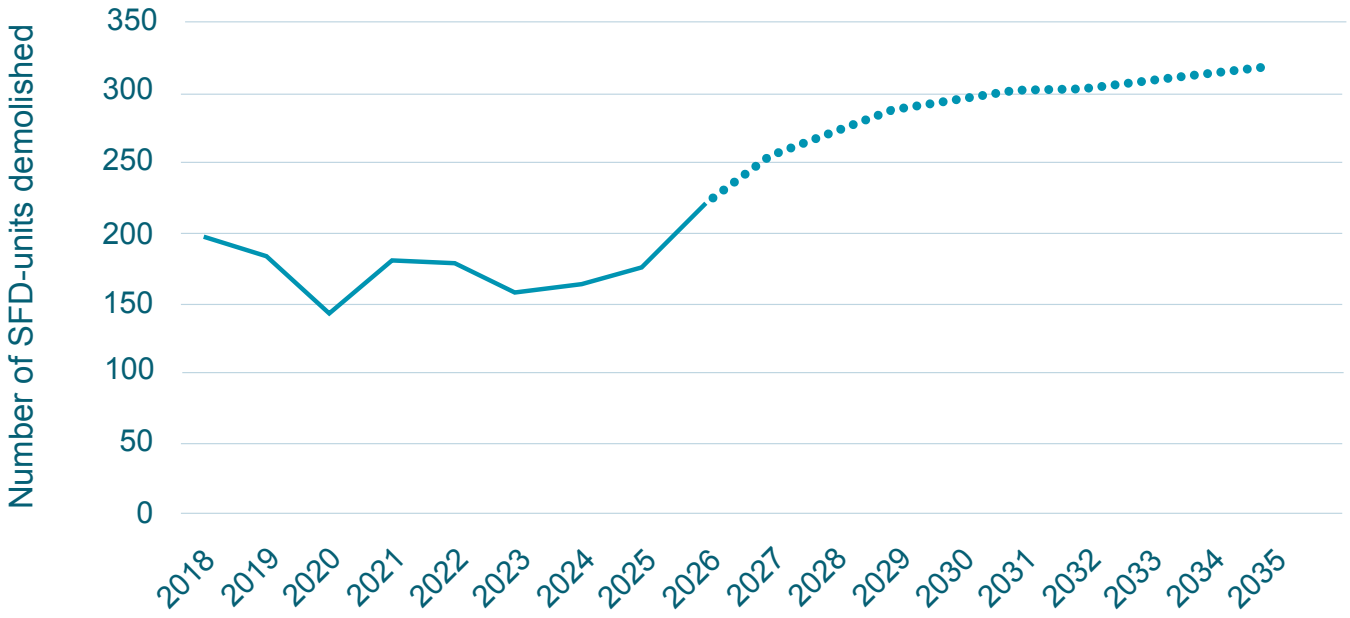


Figure 40: SFDs demolished annually: historical (2018–2025) and forecast (2025–2035), City of Victoria

In Victoria, demolition activity appears to be driven primarily by localized redevelopment decisions and land constraints, rather than broader economic indicators. The small size of the market means that changes in zoning, redevelopment approvals, or individual projects can significantly influence observed activity. The forecast should therefore be interpreted as indicating a gradual intensification of baseline redevelopment activity, reflecting continued pressure to replace older single-detached housing, rather than a sharp or cyclical shift in market conditions.

Appendix E: Methodology for calculating cost variations across urban centres

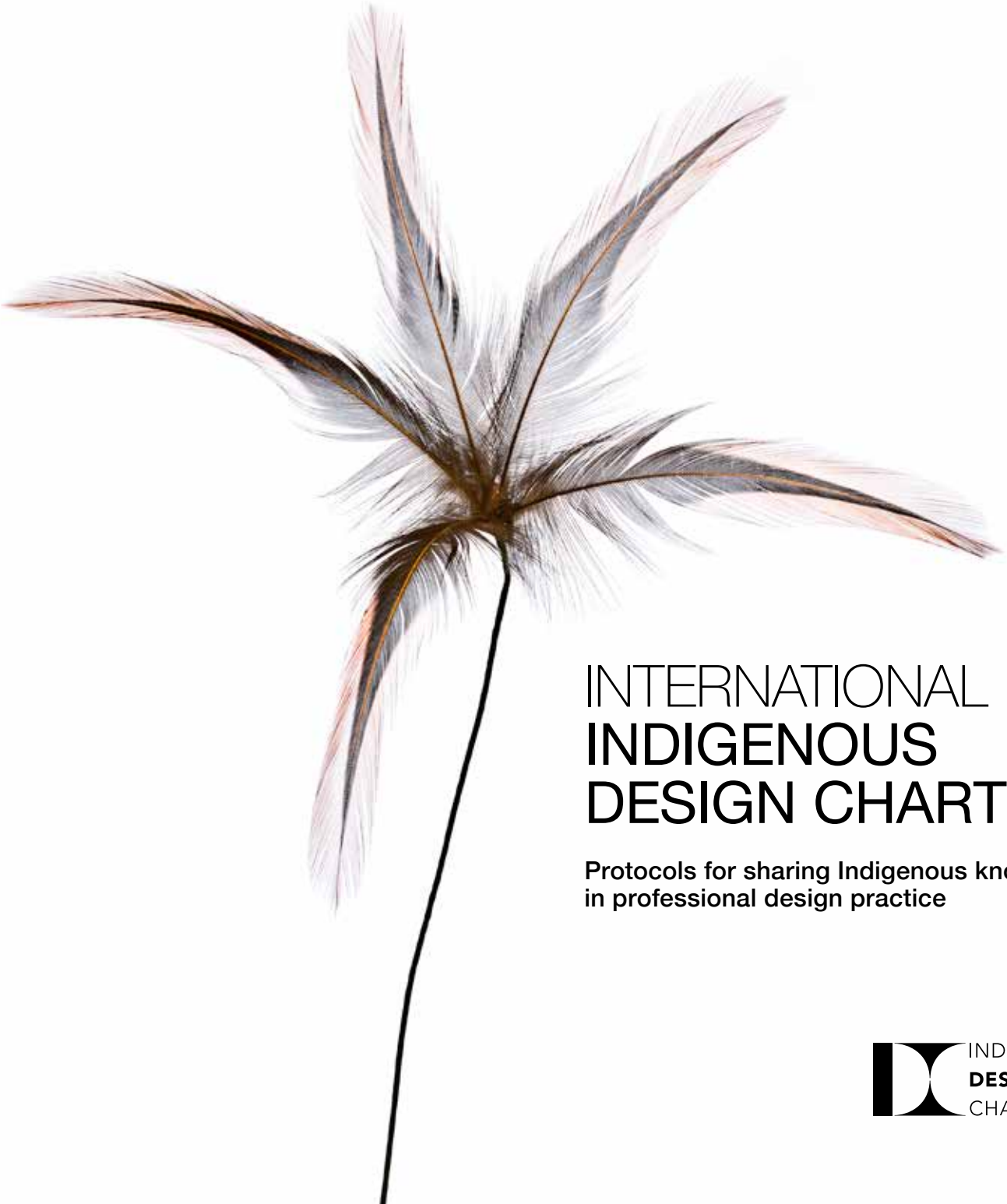
Labour Rates

Staffing positions were taken from those involved with Renewal's operations. Wages for positions in each city were based on Vancouver wages and applying a wage co-efficient for each occupation in each city – Construction labourers (NOC 75110), Construction managers (NOC 70010), Administrative assistants (NOC 13110), and Professional occupations in advertising, marketing and public relations (NOC 11202). The coefficients were calculated using median hourly wage data published by Employment and Social Development Canada (ESDC) through the Government of Canada Job Bank wage reports, which are derived from Statistics Canada's Labour Force Survey (LFS) and small-area estimation methodology. For each occupation, the median hourly wage was extracted for the Job Bank economic region corresponding to each city (e.g., Vancouver: Lower Mainland—Southwest Region; Victoria: Vancouver Island and Coast; Calgary Region; Edmonton Region; Toronto Region; Hamilton—Niagara Peninsula Region; Ottawa Region). City-level coefficients were then calculated by dividing each city's median hourly wage by Vancouver's median hourly wage for the same occupation, thereby normalizing Vancouver to 1.000. This produces a relative nominal wage index for each occupation across cities. Source data: Government of Canada Job Bank wage reports (based on Statistics Canada LFS data) and NOC 2021 occupational classifications (Employment and Social Development Canada, Job Bank Wage Reports; Statistics Canada, Labour Force Survey; National Occupational Classification 2021).

Cost to Renovate

The cost to renovate per square foot is based on the cost estimate for a 1,300 square foot wood-frame bungalow renovated to the (confidential) standards set by Renewal. The estimate uses Statistics Canada's Residential Building Construction Price Indexes (BCPI) as a public, city-level proxy for relative construction pricing, fixing the comparison to the most recent quarter reported (Q4 2025; 2023=100). Vancouver is set as the base market at the confidential cost per square foot provided by Renewal. For each city, a location coefficient is computed as the ratio of that city's BCPI level to Vancouver's BCPI level in the same quarter, and the Vancouver $/sf is multiplied by this coefficient to produce a city-adjusted $/sf. For cities not included in the BCPI CMA series in the referenced table, the BCPI coefficient for the nearest comparable market specified was applied.

Appendix F: International Indigenous design charter



INTERNATIONAL INDIGENOUS DESIGN CHARTER

Protocols for sharing Indigenous knowledge in professional design practice

INDIGENOUS
DESIGN
CHARTER

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Design Company: Inuk Design
Illustrator: Liss Stender (Inuit - Greenland)
Date: 2015

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"Design creates culture.
Culture shapes values.
Values determine the future"

Robert L. Peters
ico-D President (2001-2003)

ACKNOWLEDGEMENT OF COUNTRY

The International Indigenous Design Charter acknowledges the traditional owners of countries throughout the world and recognises their continuing connection to land, waters and culture. We pay our respects to their Elders past, present and emerging. The authors also acknowledge the Kulin Nation, the traditional owners of country where this document was developed.

PREFACE

The International Indigenous Design Charter (the Charter) was co-authored by Dr. Russell Kennedy and Dr. Meghan Kelly from Deakin University, Mr. Jefa Greenaway (Wailwan, Gamillaraay) from Indigenous Architecture and Design Victoria (IADV), Greenaway Architects and the University of Melbourne, and Professor Brian Martin (Muruwari, Bundjalung, Gamillaraay). The document was developed by Deakin University in collaboration with its Institute of Koorie Education (IKE), Indigenous Architecture and Design Victoria (IADV), and the management and executive board of the Design Institute of Australia (DIA) in consultation with Australian and international community representatives (see Appendix 4.2).

The Charter has been created to serve as a living document to guide best practice when working with Indigenous knowledge in commercial design projects. Supported by the International Council of Design (ico-D), the International Indigenous Design Charter considers the needs of the diverse design communities and cultures globally.

INTERNATIONAL RESEARCH

The development of International Indigenous Design Charter involved research activity and community engagement around the world. The ongoing consultation process for this professional practice document was punctuated with its official launch at the World Design Summit Congress in Montreal, 2017.

The following statement is drawn from comments made by Mr Damien Miller, former Ambassador to Denmark, Iceland and Norway (Piercy, 2016). Mr Miller acknowledges the Australian Government Department of Foreign Affairs and Trade (DFAT) support for the research into the International Indigenous Design Charter undertaken in the Nordic regions with both Inuit and Sami communities and design stakeholders.

> As Australia's first Indigenous Ambassador I was delighted to support Deakin's Was. Is.Always project, which aims to start a conversation about an International Indigenous Design Charter. The aim of the Charter would be to encourage the design community to think about the appropriate representation and use of Indigenous designs and traditional symbols. The idea for an international charter grew out of Deakin's work on the Australian Indigenous Design Charter (launched in 2016). Through a DFAT International Cultural Diplomacy Grant, Deakin was able to hold a series of initial discussions and workshops in Greenland, Denmark and Sweden, including with Indigenous designers and artists, with the University of Greenland and the Copenhagen School of Design and Technology. One of the highlights of the program was seeing seven Australian Indigenous artists visit Greenland – finding new artistic inspiration; meeting Greenlandic designers and artists; and forging new links with Inuit peoples.
>
> I want to congratulate Deakin for taking this initiative and also for agreeing to relaunch, in conjunction with the International Council of Design, "INDIGO," a global Indigenous design network. DFAT launched an Indigenous Peoples Strategy in 2015. Our headquarters and posts are focused on advancing the rights of Indigenous peoples, strengthening links between them, and encouraging Indigenous business engagement. The Deakin workshops helped us advance all three objectives.

Damien Miller (Gangulu)
Former Australian Ambassador to Denmark, Norway and Iceland
Australian Government Department of Foreign Affairs and Trade

Photograph courtesy of the University of Melbourne.

Design Company: Deakin University .

Designers: Troy Campbell, Sichu Cao, Angelina Gisela, Olivia Moody, Todd Murphy, Sophie Sirninger Rankin.

Creative Director: Jefa Greenaway (Wailwan, Gamillaraay), Director, Indigenous Architecture and Design Victoria (IADV).

Discipline: Communication Design.

Title: Was.Is.Always: on route to an International Indigenous Design Charter

Location: Melbourne, Australia.

Date: 2016

PARTNERS, SUPPORTERS AND ACKNOWLEDGEMENTS

INTERNATIONAL INDIGENOUS DESIGN CHARTER

Deakin University, School of Communication and Creative Arts
Deakin University, Institute of Koorie Education
Indigenous Architecture and Design Victoria
DIA: Design Institute of Australia
ico-D: International Council of Design
INDIGO: International Indigenous Design Network
Koorie Heritage Trust
Creative Victoria
Good Design Australia Award 2018 – Indigenous Designer Award
Premier's Design Awards 2018 – Best in Category (Design Strategy)
Premier's Design Awards 2018 – Award of the Year

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PART 1: INTERNATIONAL INDIGENOUS DESIGN CHARTER

When working on projects involving the representation of Indigenous culture, design practitioners and buyers of design (non-Indigenous and Indigenous) are expected to adhere to the following ten points.

10 STEP BEST PRACTICE PROTOCOLS

1. Indigenous led
2. Self-determined
3. Community specific
4. Deep listening
5. Indigenous knowledge
6. Shared knowledge (collaboration, co-creation, procurement)
7. Shared benefits
8. Impact of design
9. Legal and moral
10. Charter implementation

1

Indigenous led

Ensure Indigenous stakeholders oversee creative development and the design process.

Designer: Jefa Greenaway (Wailwan, Gamillaraay-Australia)

Design Organisation (Chair): Indigenous Architecture and Design Victoria (Aboriginal Corporation)

Design Company (Director): Greenaway Architects

Event: Australian launch of the International Indigenous Design Charter.

Location: Koorie Heritage Trust. Melbourne, Australia.

Date: 2018

2

Self-determined

Respect the rights of Indigenous peoples to determine the application of traditional knowledge and representation of their culture in design practice.

Design Company: Grace Lillian Lee Productions.

Designer: Grace Lillian Lee (Torres Strait Island descent-Australia).

Discipline: Fashion Design.

Title: Dress Code.

Model: Shantel Miskin-Ripia (Torres Strait Island descent-Australia).

Photographer: Wade Lewis.

Location (exhibition): Museum of Brisbane. Brisbane, Australia.

Date: 2018

3

Community specific

Ensure respect for the diversity of Indigenous culture by acknowledging and following regional cultural understandings.

Design Company: Made by Johnson.

Designer: Johnson Witehira (Maori-New Zealand).

Discipline: Communication and Environmental Design.

Title: Land of Tara.

Location: Courtenay Place. Wellington, New Zealand.

Date: 2014

4

Deep listening

Ensure respectful, culturally specific, personal engagement behaviours for effective communication and courteous interaction. Make sure to be inclusive and ensure that recognised custodians are actively involved and consulted.

Design Company: Indigenous Architecture and Design Victoria (IADV), Greenaway Architects, Lyons Architecture.

Designers: Jefa Greenaway (Wailwan, Gamillaraay-Australia), Rueben Berg (Gunditjmara-Australia).

Discipline: Architecture and Interior Design.

Title: Koorie Heritage Trust.

Location: Federation Square. Melbourne, Australia.

Date: 2015

5

Indigenous knowledge

Acknowledge and respect the rich cultural history of Indigenous knowledge including designs, stories, sustainability and land management, with the understanding that ownership of knowledge must remain with the Indigenous custodians.

Design Company: White Landscape and Urbanism.

Designers: Clynt White and Johnson Witehira (Maori-New Zealand).

Discipline: Communication and Environmental Design.

Title: Noise Wall.

Location: Auckland, New Zealand.

Date: 2014

6

Shared knowledge

(collaboration, co-creation, procurement)

Cultivate respectful, culturally specific, personal engagement behaviours for effective communication. This involves courteous interactions to encourage the transmission of shared knowledge by developing a cultural competency framework to remain aware of Indigenous cultural realities.

Design Company: Balarinji Design Studio.
Creative Directors: Ros Moriarti and John Kundereri Moriarti (Yanyuwa-Australia).
Discipline: Communication Design.
Title: Wunala Dreaming - Qantas Boeing 747.
Date: 2013

7

Shared benefits

Ensure Indigenous people share in the benefits from the use of their cultural knowledge, especially where it is being commercially applied.

Design Company: Inuk Design.
Designer: Liss Stender (Inuit-Greenland).
Discipline: Communication Design
Textile Design.
Title: Inuit by Inuk Design.
Location: Nuuk, Greenland.
Date: 2018

8

Impact of design

Consider the reception and implication of all designs so that they protect the environment, are sustainable, and remain respectful of Indigenous cultures over deep time: past, present and future.

Design Company: Gilimbaa.

Creative Directors: Amanda Lear and David Williams (Wakka Wakka-Australia).

Discipline: Communication Design.

Title: 2014 Brisbane G20 Summit logo with former US President Barack Obama.

Photographer: AAP Photo / Pablo Martinez Monsivais.

Location: Brisbane, Australia.

Date: 2014

9

Legal and moral

Demonstrate respect and honour cultural ownership and intellectual property rights, including moral rights, by obtaining appropriate permissions where required.

Design Company: Marcus Lee Design.
Designer: Marcus Lee (Karajarri-Australia).
Discipline: Communication Design.
Title: Blak Design Matters exhibition logo.
Location (exhibition): Koorie Heritage Trust. Melbourne, Australia.
Date: 2018

10

Charter implementation

Ask the question if there is an aspect to the project, in relation to any design brief, that may be improved with Indigenous knowledge. Use the Charter to safeguard Indigenous design integrity and to help build the cultural awareness of your clients and associated stakeholders.

Design Company: Frida Larios Design.

Designer: Frida Larios
(Maya, Pipil-El Salvador).

Discipline: Communication Design.

Title: Planting Seeds - New Maya (Visual) Language.

Location: El Salvador.

Date: 2014

PART 2:
OVERVIEW

2.1 CONTEXT

Despite the existence of protocols for the creation, distribution and ownership of Indigenous visual and media arts, architecture and the built environment in many countries, there remains a lack of information, guidance and professional leadership regarding the appropriate creation and commercial expression of Indigenous knowledge in design practice. The International Indigenous Design Charter responds directly to the identified need to address these concerns at an international level across all design disciplines.

Professional Design Associations

The cultural protocols included in this Charter recognise the diverse cultures and traditions of Indigenous communities worldwide and suggests that appropriate representation of Indigenous peoples is best achieved when effective and respectful partnerships are established between relevant stakeholders. The International Indigenous Design Charter has the support of the International Council of Design (ico-D). ico-D is a peak body of design associations around the world, including the Design Institute of Australia (DIA).

2.2 ROLE OF THE CHARTER

The International Indigenous Design Charter can be used to help facilitate accurate and respectful representation of Indigenous knowledge in all disciplines of design and associated media. The role of the Charter is to assist design practitioners, design clients and the buyers of design, including governments, corporations, businesses and not-for-profit organisations, with guidelines to encourage best practice processes. The positioning of designers and the buyers of design within the context of the Charter discussion is important because all stakeholders (clients, designers, cultural custodians) must understand the sensibilities and processes involved in respectful cultural design practice.

The Charter reinforces the rights of Indigenous peoples to achieve cultural self-determination as recognised by the United Nations in their Declaration on the Rights of Indigenous Peoples.

The UN declaration describes the right of Indigenous peoples to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional expressions of their cultures, including *designs* (United Nations, 2007, p.11). The Charter is a cultural innovation tool to be used by designers to explain the benefits of authentic cultural representation to their clients and to help them understand the process required when engaging Indigenous knowledge and cultures in commercial design practice.

This document takes the position that all design stakeholders need to understand that co-creation and the sharing of Indigenous knowledge must be undertaken responsibly and that Indigenous participants are not simply to be referenced. Instead, projects must be Indigenous led, with Indigenous stakeholders as active participants in the design process. The sensibilities and sensitivities associated with sharing Indigenous knowledge requires community engagement with cultural custodians and knowledge keepers. Respectful exchange, open thinking, deep listening and a genuine commitment to learning must be based on the premise of relationality. Building relationality ensures respectful and ethical practices are established and maintained through trust and inter-connectedness.

The International Indigenous Design Charter recommends that designers involve their clients and the buyers of design in the discussion of Indigenous knowledge and its relationship to their organisation. It provides the guidance for designers to show leadership in promoting cultural innovation to their clients by encouraging them to commission design work that includes Indigenous content. Designers and their clients are encouraged to use preferred suppliers who also follow professional Indigenous design best practice standards as outlined in the Charter.
This document serves as a guide for the design professions and associated disciplines, including communication design, digital design, environmental design, architecture and the built environment, landscape design, fashion design, advertising and strategic design practice.

The Charter recommends the following supplier/designer combinations when commissioning Indigenous-themed design:

- Indigenous owned and operated design companies who pledge to comply with professional practice standards for Indigenous design engagement as outlined in the International Indigenous Design Charter.
- Indigenous design companies or consultants who subcontract creative work to other design companies (Indigenous or non-Indigenous) and comply with professional practice standards for engagement as outlined in the International Indigenous Design Charter.
- Non-Indigenous designers/companies who pledge to comply with professional practice standards for engagement as outlined in the International Indigenous Design Charter, but also procure Indigenous expertise or engage Indigenous consultants and suppliers when applicable.

2.3 LEGAL CONTEXT

The International Indigenous Design Charter is a self-regulated, professional best practice guide. It supports existing policies, procedures and protocols that ensure the rights of Indigenous stakeholders, including their intellectual property rights, and emphasises the crucial right for fair and informed negotiation and remuneration. The document does not claim to be the definitive answer to appropriate representation of Indigenous culture in commercial design practice. Instead it aims to encourage a climate of *learning through active practice* to guide designers to produce informed, authentic and respectful outcomes in the future. It should not be viewed as a 'how-to' guide for creating Indigenous designs, but instead a guide to develop open and respectful cross-cultural engagement and exchange.

The International Indigenous Design Charter is an open document which will be reviewed on a regular basis and modified as required. Where there is conflict or inconsistency between the principles contained in the International Indigenous Design Charter and any territorial law, then the law shall prevail to the extent of the conflict or inconsistency.

2.4 INCLUSIVE PRACTICE EXEMPLAR

The International Indigenous Design Charter has been conceived and written for both non-Indigenous and Indigenous designers, fostering cultural innovation through inclusiveness. This inclusive practice exemplar aims to encourage awareness through respectful and ethical knowledge sharing and increased visibility. It promotes the best practice, moral principles and engagement methods (collaboration, co-creation, permissions, procurement) required by designers to represent Indigenous culture authentically in their practice.
The Charter calls on designers to develop applied research methods and principles that incorporate effective communication and permissions alongside associated collaboration and co-creation processes (co-authorship/co-beneficiary).

The World Intellectual Property Organisation (WIPO) provides guidance in the area of cultural innovation and representation. However, it cautions designers to be vigilant when sharing Indigenous knowledge. 'The protection of traditional knowledge should contribute toward the promotion of innovation, and to the transfer and dissemination of knowledge to the mutual advantage of holders and users of traditional knowledge, and in a manner conducive to social and economic welfare and to a balance of rights and obligations' (WIPO 2014, p.3).

PART 3:
CHARTER POINTS EXPANDED

This section expands on each Charter point by setting out the protocols, explaining the context and then proposing actions.

1. Indigenous led

Ensure Indigenous stakeholders oversee creative development and the design process.

The International Indigenous Design Charter clearly states Indigenous peoples have the right to oversee the creative development and design process of design work that seeks to engage with Indigenous knowledge. The International Indigenous Design Charter asks designers to:

- engage with local Indigenous designers who are connected with the relevant communities and provide opportunities for them to oversee the creative development and design process; and,
- employ Indigenous staff or consultants where possible.

2. Self-determined

Respect the rights of Indigenous peoples to determine the application of traditional knowledge and representation of their culture in design practice.

The International Indigenous Design Charter reinforces the rights of Indigenous peoples to cultural self-determination as recognised by the United Nations in their *Declaration on the Rights of Indigenous Peoples* (2007).

3. Community specific

Ensure respect for the diversity of Indigenous culture by acknowledging and following regional cultural understandings.

Designers need to develop a cultural awareness to recognise the sensibilities and diversities of each Indigenous culture. This includes acknowledging the diversity of Indigenous cultures as represented in urban, rural and remote communities. Designers need to understand they may only be given information or knowledge when the community has established trust and is prepared to share.

4. Deep listening

Ensure respectful, culturally specific, personal engagement behaviours for effective communication and courteous interaction. Make sure to be inclusive and ensure that recognised custodians are actively involved and consulted.

It is recommended designers start a conversation with the intention to learn—not to teach—and demonstrate the practice of being courteous, patient and listening deeply. Designers and their clients need to develop dedicated research practice methods for Indigenous-themed projects and be aware of the budgetary impact associated with such considerations.

5. Indigenous knowledge

Acknowledge and respect the rich cultural history of Indigenous knowledge, including designs, stories, sustainability and land management, with the understanding that ownership of knowledge must remain with the Indigenous custodians.

The rich cultural history of Indigenous knowledge is a living entity that continues to evolve. By developing a cultural competency framework, those engaging with Indigenous knowledge remain aware of the complex cultural reality that regenerates, advances and grows.

6. Shared knowledge

Cultivate respectful, culturally specific, personal engagement behaviours for effective communication. This involves courteous interaction to encourage the transmission of shared knowledge by developing a cultural competency framework to remain aware of Indigenous cultural realities.

The International Indigenous Design Charter recommends designers:

- have patience to cultivate respectful, culturally specific, personal engagement, without undue pressure;
- ensure the appropriate cultural custodians and knowledge keepers are present when consulting or co-creating;
- demonstrate open, transparent and inclusive consultation processes;
- ensure all stakeholders understand that consultation may require an extended period of time to enable consideration of and consultation with community members;
- understand it is important to collaborate from the outset of the design process rather than seek approval at the end;
- share and disseminate information and any findings with the relevant Indigenous stakeholders;
- engage with courteous interaction to encourage the transmission of shared knowledge by developing a cultural competency framework to remain aware of Indigenous cultural realities; and,
- provide copies of design works (where possible) to the people involved.

7. Shared benefits

Ensure Indigenous people share in the benefits from the use of their cultural knowledge, especially where it is being commercially applied.

The International Indigenous Design Charter encourages designers to share the benefits of the commercial outcomes with the traditional owners of the cultural knowledge.

Project: Shiavello Ganbu brandmark.

Design Company: Latitude Group.

Designers: Latitude Group in collaboration with Wurundjeri elders.

Creative Director: Kyle Vander Kuyp (Worimi, Yuin-Australia), Indigenous Engagement Manager, Schiavello Ganbu.

Discipline: Communication Design.

Title: Schiavello Ganbu logo - Ganbu [pronounced Gung-boo] meaning “first” or “one” in the Woi Wurrung language of the Wurundjeri people of Victoria.

Location: Melbourne, Australia.

Date: 2018

Designer (speaker): Maya Sialuk Jacobsen (Inuit-Greenland) based in Svendborg, Denmark.

Discipline: Designer and tattooist.

Title: Was.Is.Always: on route to an International Indigenous Design Charter - Copenhagen Workshop.

Location: Greenland House, Copenhagen, Denmark.

Date: 2016

8. Impact of design

Consider the reception and implication of all designs so that they protect the environment, are sustainable, and remain respectful of Indigenous cultures over deep time: past, present and future.

The International Indigenous Design Charter asks designers to ensure the representation of Indigenous cultures:

- reflects their cultural values and respects their customary laws;
- protects and respects the environment and honours the values of Indigenous cultures;
- are an authentic reflection of Indigenous knowledge;
- empowers Indigenous peoples: past, present and future; and,
- positively impacts Indigenous peoples who are both the subject and producers of the story: past, present and future.

9. Legal and moral

Demonstrate respect and honour cultural ownership and intellectual property rights, including moral rights, by obtaining appropriate permissions where required.

Designers must be aware of their professional and moral responsibility and the need to understand the power they have to influence opinions. For this reason, the International Indigenous Design Charter emphasises the importance of respecting copyright, moral rights, and cultural rights. It also emphasises the need to understand the importance of appropriate acknowledgements and credits, as per the legal requirements of the country in which the cultural knowledge resides.

Designers need to be aware that some aspects of Indigenous representation may be unsuitable for public scrutiny. Secret and sacred material is often restricted under customary law and therefore unsuitable for publication. Privacy and confidentiality must be respected.

10. Charter implementation

Ask the question if there is an aspect to the project, in relation to any design brief, that may be improved with Indigenous knowledge. Use the Charter to safeguard Indigenous design integrity and to help build the cultural awareness of your clients and associated stakeholders.

PART 4:
APPENDIX

4.1 DEFINITIONS

Indigenous Grouping Terminology

INDIGENOUS – a term used to describe people who identify as having a set of specific rights based on their historical ties to a particular territory, and their cultural or historical distinctiveness from other populations that are often politically dominant. Also identified as First Nations, Aboriginal and custodians of traditional knowledge. The authors have made a stylistic decision to capitalise the word Indigenous in all instances in the International Indigenous Design Charter.

The terms *Indigenous* and *Indigenous peoples* have both been used in this Charter. The International Indigenous Design Charter acknowledges that the word Indigenous can be a contentious term; however, for efficiency and in the absence of a more appropriate single word alternative, the International Indigenous Design Charter has opted to comply with the judgment of the United Nations (2013) Forum on Indigenous Issues which states:

Considering the diversity of Indigenous peoples, an official definition of 'Indigenous' has not been adopted by any UN-system body. Instead the system has developed a modern understanding of this term based on the following:

- self-identification as Indigenous peoples at the individual level and accepted by the community as their member;
- historical continuity with pre-colonial and/or pre-settler societies;
- strong link to territories and surrounding natural resources;
- distinct social, economic or political systems;
- distinct language, culture and beliefs;
- form non-dominant groups of society; and,
- resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities (United Nations, 2013, p.1).

INDIGENOUS KNOWLEDGE – a term used to describe ways of knowing, seeing, and thinking that are passed down orally and visually from generation to generation of Indigenous peoples.

Design Practice Terminology

DESIGN – in this document the term has been used to describe a profession of associated disciplines. The term 'design' encompasses communication design, digital design, environmental design, architecture and the built environment, landscape design, fashion design, visual language, advertising and design strategy.

DESIGNER – the following is the official International Council of Design (ico-D) definition of a designer:

> Design is a constantly evolving and dynamic discipline. The professionally trained designer applies intent to create the visual, material, spatial and digital environment, cognisant of the experiential, employing interdisciplinary and hybrid approaches to the theory and practice of design. They understand the cultural, ethical, social, economic and ecological impact of their endeavors and their ultimate responsibility towards people and the planet across both commercial and non-commercial spheres. A designer respects the ethics of the design profession (ico-D, 2012).

COMMUNICATION DESIGN – the term used to describe the profession, which encompasses the disciplines of both graphic, digital and interactive design. This definition reflects the global shift from focusing on design as the production of an artefact to design as a strategic process.

GRAPHIC DESIGN – the term for a profession, which is now more commonly referred to as 'communication design' or 'visual communication design' because of the trending shift from print media to digital and interactive design applications that engage with both visual and non-visual senses (see communication design).

RELATIONAL – concerning the way in which two or more people or things are connected.

RELATIONALITY – the state or condition of being relational.

STAKEHOLDER – a person, group, organisation, escrow agent or custodian with a legitimate interest in a given situation, action or enterprise.

COLLABORATION – the act of working with someone to produce something.

CO-CREATION – a business strategy focusing on customer experience and interactive relationships.

PROCUREMENT – the act of obtaining or procuring something. The act of obtaining or buying goods and services.

PERMISSIONS – the act of officially allowing someone to do a particular thing; consent or authorisation.

CO-BENEFICIARIES – more than one person who gains a combined advantage and/or profit from something.

CO-AUTHORSHIP – more than one person collaborating as joint author.

4.2 CONTRIBUTORS

The International Indigenous Design Charter acknowledges the contributions of participants to the following research workshops:

Was.Is.Always: South to North. Nordic Indigenous Research Program November 2016

Deakin University, Melbourne, Australia.

Research Staff:
Dr. Meghan Kelly (Australia)
Dr. Russell Kennedy (Australia)
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Ursula Lorentzen (Denmark)

Students (Deakin University Institute for Koorie Education):
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Paula Ann Reeve (Gundjitmara – Australia)
Brandi Salmon (Wiradjuri – Australia)
Masud Ghungarie Sanders (Gooreng-Gooreng, Munanjhalla – Australia)
Michael Nona (Bardu Island – Australia)
Taicee Pearson (Kulkagau ya Lagawya, Nyul Nyul, Karijara – Australia)
Dwayne Yates (Wiradjuri– Australia)

Greenland House Research Workshop

Copenhagen, Denmark. November 2016

Local Contributors: International Indigenous Design Charter Workshop
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Leise Johnsen (Inuit – Greenland)
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Ilisimatusarfik | University of Greenland Research Workshop

Nuuk, Greenland. November 2016

Local Contributors: International Indigenous Design Charter Workshop
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Nauja Brøns (Inuit – Greenland)
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Local Contributors: International Indigenous Design Charter Workshop
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Lena Winald Möller (Sweden)
Stefan Engberg (Sweden)

Copenhagen School of Design and Technology (KEA) Research Workshop

Copenhagen, Denmark. November 2016

Local Contributors: International Indigenous Design Charter Workshop
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Karine Pedersen (Sami – Norway)
Malise Porsanger (Sami – Norway)
Maya Jacobsen (Inuit – Greenland)
Ursula Lorentzen (Denmark)

ico-D Regional Meeting

Santiago, Chile. January 2017

Presenters: International Indigenous Design Charter
Ana Masut (Canada)
Frida Larios (Maya Pipil – El Salvador)
Miguel Hernandez (Chile)
David Grossman (Israel)

ico-D Platform Meeting

Montreal, Canada. October 2017

Presenters: International Indigenous Design Charter
Elly Chatfield (Gamillaraay – Australia)
Jefa Greenaway (Wailwan, Gamillaraay – Australia)
Dr. Meghan Kelly (Australia)
Dr. Russell Kennedy (Australia)

World Design Summit:

Montreal, Canada. October 2017

Panel Members: International Indigenous Design Charter discussion
Douglas Cardinal (Metis, Blackfoot, Kainai, Algonquin – Canada)
Elly Chatfield (Gamillaraay – Australia)
Daniel J. Glenn (Crow – USA)
Jefa Greenaway (Wailwan, Gamillaraay – Australia)
Cheyenne Kayl-Lynn Thomas (Ojibway – Canada)
Frida Larios (Maya, Pipil – El Salvador)
Philippe Meilleur (Mohawk – Canada)
Kevin Poitras (Canada)
Patrick Stewart (Nisga'a – Canada)
Dori Tunstall (USA)

4.3 REFERENCES

ico-D (2012). *Defining the Profession*. International Council of Design. Retrieved 20 October 2013 from http://www.ico-d.org/about/index#defining-the-profession

Janke, T. (1999). *Our Culture: Our future*. Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) and the Aboriginal and Torres Strait Islanders Commission (ATSIC). Retrieved 11 June 2011 from http://frankellawyers.com.au/media/report/culture.pdf

Janke, T. (2002). *New Media Cultures: Protocols for Producing Indigenous Australian New Media*. Retrieved 20 October 2015 from http://www.wipo.int/export/sites/www/tk/en/databases/creative_heritage/docs/atsia_indig_media.pdf

Janke, T. (2007). *Protocols for Producing Indigenous Australian Visual Arts*. Retrieved 20 October 2015 from http://www.australiacouncil.gov.au/symphony/extension/richtext_redactor/getfile/?name=daaf1afd6d719315db5e5e174a1da961.pdf

Janke, T. (2009). *Pathways & Protocols: A Filmmaker's Guide to Working with Indigenous People, Culture and Concepts.* Retrieved 20 February, 2016 from https://www.screenaustralia.gov.au/getmedia/e601f1b9-0394-4c83-9a62-c20939d9ab30/Indig_Protocols.pdf

Kelly, M. (2013). *A Systematic Investigation of Cross-Cultural Visual Communication Design*. PhD dissertation, Monash University.

Kennedy, R. (2015). *Designing with Indigenous Knowledge: Policy and Protocols for Respectful and Authentic Cross-cultural Representation in Communication Design Practice*. PhD dissertation, Swinburne University.

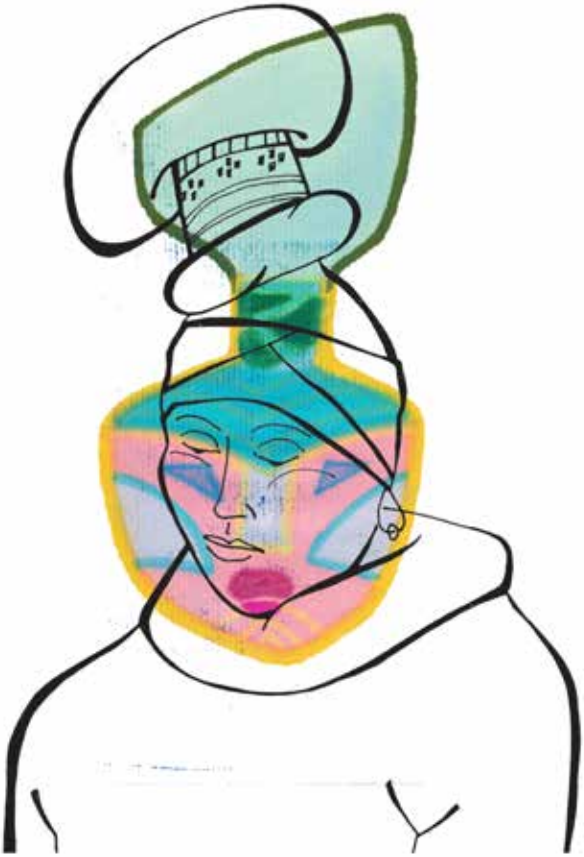
Oxfam Australia (2007). *Aboriginal and Torres Strait Islander Cultural Protocols*. Carlton, VIC. Retrieved 20 October 2015 from http://www.Indigenousartcode.org/wp-content/uploads/2011/06/Indigenous-Art-Code.pdf

Piercy, A. (2016). *Deakin University to host INDIGO. MOU signed in Copenhagen between ico-D and Member Deakin University*. ico-D International Council of Design. Retrieved 16 November 2018 from http://www.ico-d.org/2016/11/23/indigo-revived-new-agreement-between-deakin-university-and-ico-d-signed.php

United Nations (2007). *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP). Geneva/New York. Retrieved 20 October 2015 from http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

United Nations (2013). *Who Are Indigenous Peoples?* United Nations Permanent Forum on Indigenous Issues. Indigenous People, Indigenous Voices. Retrieved 6 February 2016.

WIPO (2014). *The Protection of Traditional Knowledge: Draft Articles*. P.3 (vii) Retrieved 20 February 2016 from www.wipo.int/.../wipo_grtkf_ic_27_ref_facilitators_document_rev_2.doc



Appendix G: Municipal permitting requirements for relocating homes

City	Demolition Permit Required	Relocation-specific checklist?	Permit requirements	Applicable Fees*
Toronto	Yes	No	Oversize move of a house requires a Single-Trip Oversize Load Permit from Transportation (insurance, route review, escorts as needed).	Permit: $0.17 per m^2, minimum $206.53 (2025) Additional: $991.34 Environmental Review fee where required.
Hamilton	Yes	No	Oversize house moves require Road Occupancy / Oversize Truck Permits through Roads; processed outside building permits.	Permit: SI-based with a minimum $291for most permits
Ottawa	Yes	No	Oversize moves use Over-Dimensional Vehicle (ODV) permits + Road Activity permits for right-of-way use.	Permit: $110 for first 5,000 ft^2 + $12 per extra 1,000 ft^2; $1,096 in Demolition Control areas; $3,288 if under Heritage Act.
Calgary	Yes	Yes. The CARL "Demolish or Move a Building" checklist functions as the relocation checklist (application, site plan, utility forms, etc.).	Yes. The CARL "Demolish or Move a Building" checklist functions as the relocation checklist (application, site plan, utility forms, etc.).	Permit: $112 + $1.44/$m^2$ base fee, plus 4% Safety Codes Council levy (min $4.50, max SCC $560), giving $116.50–$4,624 total range.
Edmonton	Yes	No	Building moves require Traffic Operations / provincial approvals separate from the building permit.	Permit: DP $100 + BP $120 + Safety Codes fee $4.80 = $224.80 total.

City	Demolition Permit Required	Relocation-specific checklist?	Permit requirements	Applicable Fees*
Vancouver	Yes. If the house is moved under a building-move permit, the project can be exempted from Green Demolition conditions.	No	Road / oversize: Oversize Truck Permits are required for house moves, with insurance, route analysis, and coordination with City utilities and parking.	Permit: $1,500 per dwelling unit (2025 schedule). For houses subject to Green Demolition: refundable $14,650 security deposit + $449 Green Demolition fee on top of the base demo permit; deposit refunded based on documented reuse/recycling performance.
Victoria	Yes	Yes (via deconstruction forms).Deconstruction reporting explicitly includes a tick box for "house relocated for use at another location," making relocation an official outcome type.	Yes (via deconstruction forms).Deconstruction reporting explicitly includes a tick box for "house relocated for use at another location," making relocation an official outcome type.	Permit: $100 + 1.40% of demolition cost. For houses subject to Demolition & Deconstruction Bylaw: non-refundable admin fee $500 + refundable $19,500 Waste. Deposit is refunded if salvage / reuse targets are met; house moves qualify, so relocation can earn full refund.

* Fees listed exclude contractor charges, utility-company fees, and separate road / oversize / provincial transport permit cost.